NEW MEXICO CLIMATE ADAPTATION AND RESILIENCE PLAN

MARCH 2024

NEW MEXICO CLIMATE ADAPTATION & RESILIENCE PLAN

PREPARED FOR:

NEW MEXICO ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT

PREPARED BY:

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JANUARY 2024

ACKNOWLEDGMENTS

This project would not have been possible without the knowledge, experience, and contributions of the following individuals and groups. Thank you to the entire project team and all of the many individuals from a wide array of State Agencies for their participation in the creation of this Resilience Plan. Thank you for your knowledge, expertise, experience, and dedication to keeping New Mexico safe, healthy, and vibrant.

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- Department of Military Affairs
- Department of Health
- Department of Information Technology
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- Department of Public Safety
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- Early Childhood Education and Care Department
- Economic Development Department
- Energy, Minerals, and Natural Resources Department
- General Services Department
- Higher Education Department
- Human Services Department
- Indian Affairs Department
- Interstate Stream Commission
- New Mexico Corrections Department
- New Mexico Department of Agriculture
- New Mexico Department of Workforce Solutions
- New Mexico Environment Department
- New Mexico Tourism Department
- Office of African American Affairs
- Office of Broadband Access and Expansion
- Office of the State Engineer
- Office of the Governor
- Public Education Department
- Renewable Energy Transmission Authority
- State Land Office
- State Personnel Office
- Workers Compensation Administration

Project Funding

This planning process was funded by the Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure and Communities (BRIC) subgrant agreement EMT-2020-BR-098-0001.

Suggested Citation

New Mexico Climate Adaptation and Resilience Plan. (2023). New Mexico Energy, Minerals, and Natural Resource Department, Climate Policy Bureau. [Contributing Authors: Finkelstein, R., Lohmann, M., Gomez, R., Petersen, A., Ferris, M., Pierce, R., Bell, A., Harrison, T., Even, T., Williams, K., Sussman, A., Reece, S., Meko, M., DuBois, D., Ferguson, D., Glabo, K.].

SAN ANTONIO OXBOW BLUFFS OPEN SPACE, ALBUQUERQUE; GROUNDWORK STUDIO

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ACEQUIA, SANTA CLARA PUEBLO; MAYA PENA, CC

LETTER OF INTRODUCTION

We humans have entered – indeed, created – a new era on the planet. In the Anthropocene, as we weather the brunt of a climate we ourselves have generated, we humans find ourselves both the crafter and the crafted.

This is new terrain for all of us – attempting to simultaneously survive our changing climate, while trying to change it (back). This involves both murmurating – moving together as one, like a flock of birds – while simultaneously each contributing our individual gifts maximally to the cause.

Dangerously, there's a lag time with climate impacts. When we look out the window today at the state's heat, wildfires, droughts, and floods, we are observing the impacts of the emissions from the 1990s. Even if we halted all greenhouse gas emissions tomorrow (which we are furiously trying to do), we still have decades, if not a century, of climate challenges ahead. Now is the time to prepare for more, and for worse.

Fortunately, resilience is not new to the people of New Mexico. Generations of hardworking, creative, often under-resourced New Mexicans have often innovated solutions to challenges threatening our lands, cultures, and ways of life.

And, our government agencies reflect this dauntless spirit too. From supporting communities impacted by our largest wildfire in recorded history, to providing ever-changing services during the COVID-19 pandemic response, state agencies have experienced the impact of cascading hazards, and responded adeptly. Our work with state agencies in drafting this Plan has revealed a strong commitment to make a difference – now including incorporating climate resilience and adaptation practices into our operations.

The New Mexico Climate Adaptation and Resilience Plan is the result of a great deal of work by state agencies to identify risks and vulnerabilities, to develop and prioritize strategies to address them, and to create a path forward to address climate change. As state agencies, we understand that mitigating and adapting to climate change requires complex coordination across all sectors, and building this capacity takes time, funding, and political will.

New Mexicans are hardy, resourceful, diverse, and resilient. We are also largely rural, marginalized, and vulnerable due to decades of discrimination and disenfranchisement. Increasing community resilience in a collaborative effort can improve public health, ensure equity, and buffer our economy. Thus, this plan focuses on six core Resilience Themes to embed and increase resilience in all of our work as state government in order to shield against acute shocks and chronic stressors. The strategies in this plan will allow us to integrate resilience into all our operations and practices, to make smart decisions, and to strengthen our communities and ecosystems' ability to handle new challenges.

Working together, we will innovate, flex, survive, and thrive.

Rebecca Puck Stair, Director, New Mexico State Energy Office
Energy Conservation and Management Division
Energy, Minerals and Natural Resources Department

EXECUTIVE SUMMARY

New Mexico faces changing climate conditions, and state and local entities must anticipate and prepare to meet these climate challenges, which are expected to disproportionately impact the most vulnerable populations and infrastructure. As the state faces mounting challenges, including extreme heat, wildfires, droughts, storms, heavy precipitation, and associated health risks, the Climate Adaptation and Resilience Plan provides a blueprint for a more resilient New Mexico.

A Collaborative Approach

Central to our efforts is a collaborative and multi-faceted approach that starts with bringing together state agencies and will expand to include collaboration with Tribal communities, local governments, academia, the private sector, and various non-profits. By working together, we aim to understand the complex challenges climate change pose to our State and seize opportunities presented by changing conditions. Our goal is to create solutions that are customized to the unique challenges our communities are facing across the state and enhance the resilience of all New Mexicans.

State Commitment and Progress

Our commitment to climate resilience began with Governor Michelle Lujan Grisham's 2019 Executive Order on Addressing Climate Change and Energy Waste Prevention (E.O. 2019-003). This directive established climate action as a broad policy goal across all government functions, setting ambitious targets for reducing the emissions of heat trapping gasses. Through inter-agency collaboration and the development of this Plan, State agencies have begun to incorporate climate adaptation into their programs and operations, aligning with the state's vision for a clean energy future, protection of natural and cultural heritage, and the safeguarding of human health and safety.

Anticipating Climate Change Risks and Impacts

Understanding the climate risks facing New Mexico is paramount to proactively addressing the challenges presented by a changing climate. Communities across New Mexico are already dealing with the wildfires, droughts, floods, and extreme temperatures that come with increasing temperatures and variable precipitation patterns driven by climate change. The unique geography and diverse climates within New Mexico result in a complex climate risk profile, affecting government operations, critical infrastructure, natural resources, economies, culture, and the overall well-being of its residents.

The effects of climate change are not uniform, and certain communities are more vulnerable due to systemic burdens, including environmental and socioeconomic inequities. Factors such as racial discrimination, economic distress, housing insecurity, limited access to healthcare, and chronic health conditions can exacerbate vulnerability. Partnerships with Tribes, local communities, and other stakeholders are essential to comprehensively address barriers impacting communities' ability to adapt and thrive.

Key climate related concerns:

- **Water, Aridity, and Drought:** New Mexico's rich history of water use and management faces challenges as warming temperatures lead to increased evaporation and decreased snowpack. Projections indicate a 25% decrease in surface water runoff and groundwater recharge in the next 50 years, affecting agriculture and ecosystems across the state.
- **Extreme Heat:** Warming temperatures will result in more frequent and severe heatwaves. By 2050, New Mexico may see twice as many dangerously hot days per year, with some areas experiencing even greater increases. Vulnerable populations, including older adults, children, and those with pre-existing health conditions, are at higher risk of heat-related illnesses.
- **Wildfires:** The risk of wildfires, like those experienced recently, is expected to rise. Wildfires can directly impact people and property while also decreasing air quality and enhancing the risk of smoke inhalation and other health impacts.
- **Flooding:** Flooding remains a concern, especially for properties in floodplains and areas susceptible to flash floods and landslides. Vulnerable communities, especially those with limited mobility or transportation challenges, are at the greatest risk.

Resilience Themes

Through a series of workshops held in 2023, attended by representatives from state agencies, we have developed a Climate Adaptation and Resilience Plan. This plan was developed by following the U.S. Climate Resilience Toolkit Steps to Resilience framework. The workshops focused on fostering cross-departmental collaboration, enhancing understanding of climate impacts, and creating a shared framework for resilience efforts. For each of the six major resilience themes, the plan contains a list strategies and some initial priority actions to implement a few of those strategies.

COMMUNITY AND CULTURE

Strategies in this resilience theme focus on empowering communities to preserve and draw upon their cultural heritage and traditional knowledge to enhance social cohesion, community engagement, and collective action for resilience.

ECOSYSTEMS AND NATURAL RESOURCES

Strategies in this resilience theme address the protection, restoration, and sustainable management of natural resources and ecosystems to strengthen ecological resilience and maintain the services these ecosystems provide to our communities.

HUMAN HEALTH AND WELLNESS

Strategies in this resilience theme prioritize public health and well-being to build resilience in the face of public health crises and both chronic and acute environmental health risks, ensuring access to healthcare services, mental health support, and effective disaster preparedness and response.

WATER SYSTEMS

Strategies in this resilience theme are dedicated to strengthening the resilience of water-related infrastructure, encompassing water supply systems, wastewater treatment, and flood management. The primary goal is to enhance water quality and distribution, while protecting or improving equitable access and water security for all.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

Strategies in this resilience theme focus on enhancing the resilience of physical infrastructure, including critical facilities, transportation networks, and social/cultural assets, to withstand and recover from extreme weather events and other disruptions, while also supporting the daily activities of New Mexicans in a sustainable manner.

LOCAL ECONOMIES

Strategies in this resilience theme strengthen local economies by promoting economic diversification and industry mixes that reduce greenhouse gas emissions, support small businesses, foster job creation and workforce development opportunities, and encourage sustainable industry practices.

Moving Forward

Truly building resilience will require a sustained commitment to capacity-building and action across the state. We all need to work together to anticipate, adapt, and respond to climate changes and other related changes. Addressing historical disinvestment and disenfranchisement is critical to ensure equitable resilience efforts that benefit all communities.

The Climate Adaptation and Resilience Plan reflects our commitment to resilience. It provides a framework for action and serves as a next step in our ongoing effort to enhance resilience across New Mexico. State agencies will continue to engage with communities, Tribes, and Pueblos, to gather feedback on this version of the plan and make updates as necessary.

As we face the impacts of climate change, the State of New Mexico is committed to navigating the climate crisis by reducing the emissions of heat trapping gasses and supporting our agencies, communities, and people as we adapt to changing conditions. This Climate Adaptation and Resilience Plan represents a crucial step forward that reflects our dedication to the creation of a sustainable, climate-resilient future for all New Mexicans.

INTRODUCTION

New Mexico is already experiencing the disruptive effects of a changing climate. The state's exposure and risk from extreme heat, wildfire, drought, storms, heavy precipitation, and vector-borne illnesses have increased - dramatically in some instances - as a result. These dynamic events pose a distinct and immediate threat to the economic, social, and cultural fabric of our communities, as well as to the natural environments and ecosystems vital to our survival. As we deal with these changes, this Climate Adaptation and Resilience Plan provides a path toward a more resilient future.

The State of New Mexico is committed to navigating the climate crisis by reducing emissions of heat trapping gasses and supporting our agencies, communities, and people as we adapt to these changing conditions. We must work together to raise the level of resilience for all New Mexicans. Formal state efforts to build climate resilience started with Governor Michelle Lujan Grisham's 2019 Executive Order on Addressing Climate Change and Energy Waste Prevention (E.O. 2019-003). In addition to creating the state Interagency Climate Change Task Force and establishing goals to reduce greenhouse gas emissions, this directive established climate action to be a broad policy goal across all government functions. State agencies continue to work towards this directive, incorporating climate adaptation into programs and operations to ensure a clean energy future, to limit adverse effects on New Mexico's natural and cultural heritage, and to protect human health and safety. Since the issuing of this Order, the State of New Mexico established a Climate Policy Bureau to lead resilience planning and organized interagency climate action teams. In 2023, the State included a climate impacts annex in the State Hazard Mitigation Plan update, incorporating climate hazards and projections into this document for the first time.

This version of the climate adaptation and resilience plan was developed in 2023 through a series of three workshops attended by representatives from a wide variety of state agencies. Workshops followed NOAA's U.S. Climate Resilience Toolkit planning framework, helped build cross-departmental collaboration, enhanced the understanding of climate impacts across the state, and created a shared framework to guide resilience efforts. This draft plan is a living document and represents a next step in an all-of-state-government approach to strengthening resilience across New Mexico. The plan outlines resilience strategies and first steps for implementation in five themes: Community and Culture, Ecosystems and Natural Resources, Health and Wellness, Infrastructure, and Local Economies. It also outlines cross-cutting principles that express how the state will approach climate change resilience initiatives across New Mexico.

To successfully meet current and future challenges and take advantage of new opportunities, it is important to anticipate and proactively prepare for changing conditions in ways that not only address vulnerabilities and reduce risk but help create the future that New Mexicans hope for their communities. Strengthening resilience will require a sustained and multi-faceted collaborative effort across state agencies. It will also require strong partnerships with Tribes and Pueblos, local governments, academia, the private sector, and other entities to understand the challenges and take advantage of the opportunities. Solutions must be customized to the challenges communities across the state are facing. These solutions need to support all residents in ways that support equitable outcomes so that we can build a better future for all.

SOLAR FARM, GALLUP, NM; TROY SANKEY, CC

Resilience in Action:

Leveraging Partnerships: Ramah Navajo Chapter of the Navajo Nation and Animal Protection of New Mexico (APNM)

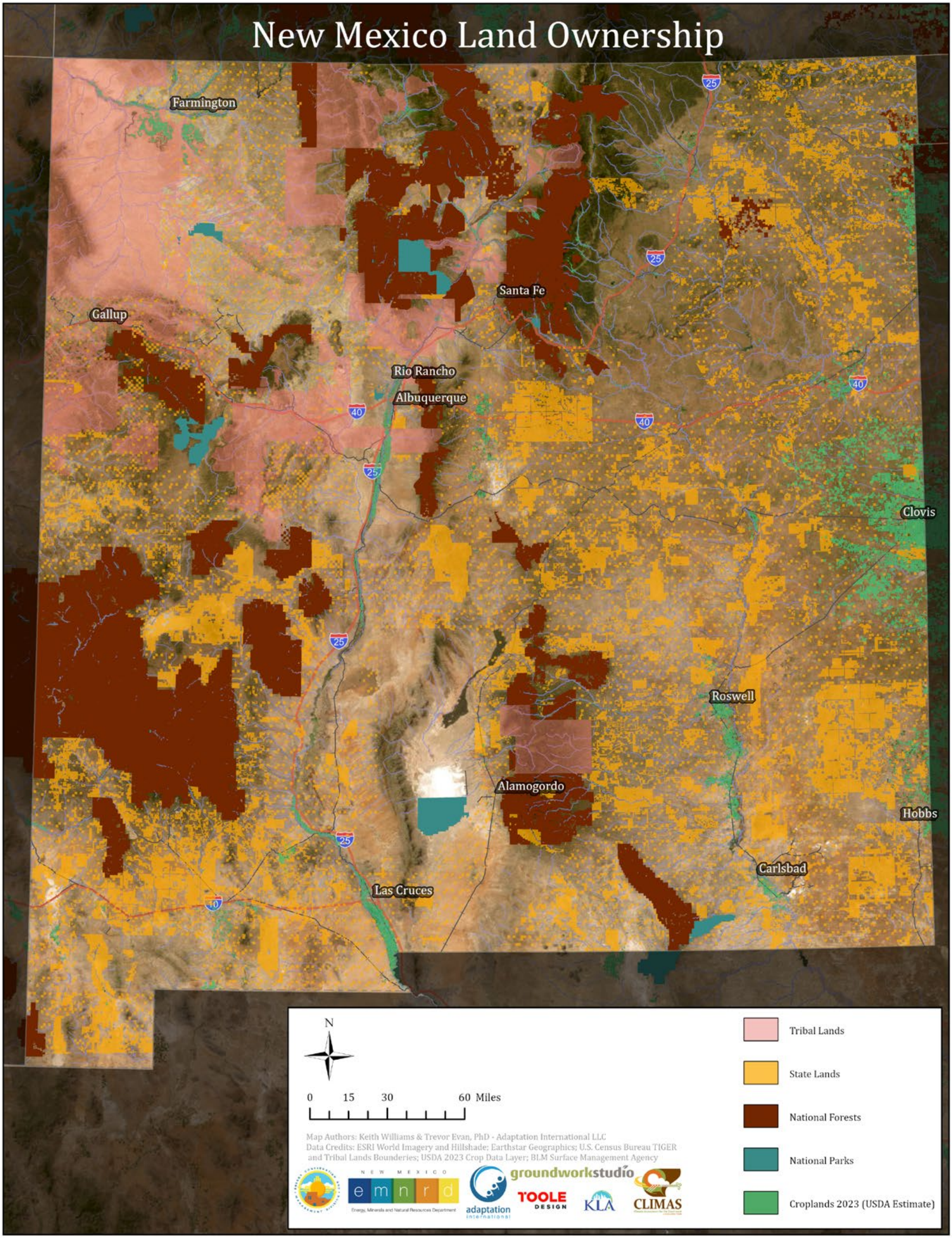
Caring for the horses who are important to many members of the Ramah Chapter of the Navajo Nation (RNC) is not easy; chronic drought, expensive feed, lack of animal services, and high energy costs are some of the pressures faced by these communities. In 2019 APNM began partnering with RNC to help them develop programs to humanely manage and care for wild and domestic horse populations in ways that protect fragile rangeland ecosystems. However, during the COVID-19 pandemic, human food access became a more urgent need in the community, so APNM and the RNC pivoted and started partnering on providing plant-based food boxes for isolated families and elders. The flexibility in the partnership has effectively responded to the cascading impacts of the pandemic, including providing emergency feed and low-cost or free veterinary care for the chapter's horses, helping people maintain economic stability, and reducing pressures to sell off horses. To broaden this kind of community partnership, APNM now has a Tribal Affairs Manager who is reaching out to all of New Mexico's Tribal communities and helping coordinate requested services.

Also, during and after the state's devastating 2022 wildfires, APNM saw an urgent need for animal feed assistance in those communities as well. APNM secured funding for and coordinated with the New Mexico Livestock Board to deliver food for equines and other companion animals of those evacuated from the fires. Through both programs, APNM has been able to help protect animals and the people who want to protect them. To learn more: https://apnm.org/our-publications/annual-report/

RAMAH NAVAJO CHAPTER HOUSE, NM, APNM

OFFLOADING FEED IN MORA, NM, 2022, APNM

New Mexico Land Ownership



Map Authors: Keith Williams & Trevor Evan, PhD - Adaptation International LLC
Data Credits: ESRI World Imagery and Hillshade; Earthstar Geographics; U.S. Census Bureau TIGER and Tribal Lands Bounderies; USDA 2023 Crop Data Layer; BLM Surface Management Agency

NEW MEXICO'S CLIMATE RESILIENCE JOURNEY

Resilience is not new to the people of New Mexico. Generations of hard working, creative New Mexicans have developed solutions to challenges threatening our land, culture, and ways of life.

As the climate changes, so do the challenges and extreme events that we must be prepared to address. The role of state government is to ensure that agencies and residents are prepared to adapt to new challenges and support local communities. To date, New Mexico has taken important strides to reduce the heat-trapping gasses that warm our planet and has increased its focus on adapting to climate threats and building resilience. In 2019, Governor Michelle Lujan Grisham signed an Executive Order on Addressing Climate Change and Energy Waste Prevention (Executive Order 2019-003) which established greenhouse gas emission reduction targets, created the interagency Climate Change Task Force and instructed state agencies to incorporate climate adaptation into their programs and operations.

Building State and Local Capacity

As New Mexico continues along this trajectory, it is necessary to build state, Tribal, and local government capacity to anticipate, adapt, and respond to projected climate (and other) changes that will continue to affect communities across the state. Also critical to building resilience is addressing historic disinvestment and disenfranchisement that have increased the likelihood that certain communities will be disproportionately impacted by climate change. This plan seeks to enhance the capacity of all partners to support each other and respond to future disasters.

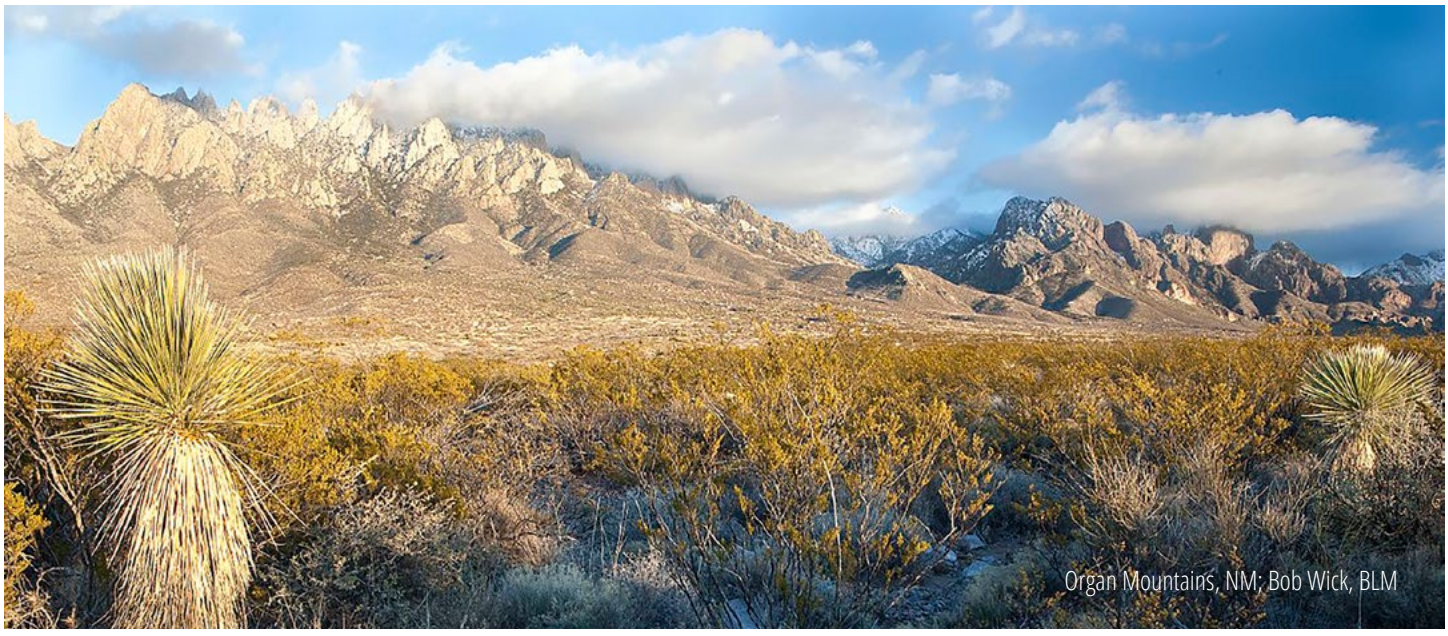
This Climate Adaptation and Resilience Plan is an important next step to address and limit the impacts of climate change on New Mexicans. It expands the conversation around climate action in New Mexico to consider a broader array of contexts and conditions that influence the capacity of communities to respond, adapt, and thrive in the wake of shocks and stressors. The interagency nature of this effort also presents a unique opportunity to truly build an all-of-state-government approach to addressing challenges and opportunities facing the state.

***Resilience** is the ability to anticipate, prepare for, respond to, and recover from disruptions with minimum damage to social well-being, the economy, and the environment.*

New Mexico's Climate Adaptation and Resilience Plan Timeline

Figure 1: Timeline for the development of this Adaptation and Resilience Plan. The 18-month process started with the award of a FEMA BRIC Grant in 2022 and included three inter-agency workshops in the spring, summer, and fall of 2023.

In 2022, the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) secured a Building Resilient Infrastructure and Communities (BRIC) program grant from the Federal Emergency Management Agency (FEMA) to develop a State Climate Change Adaptation and Resilience plan. Where relevant, the resilience strategies from the plan will also be included as the first Climate Annex to the 2023 State Hazard Mitigation Plan. Central to the Resilience Plan development process was an Interagency Climate Adaptation and Resilience Planning Team. This team participated in a series of three workshops between May and September of 2023. The planning process was modeled off the National Oceanic and Atmospheric Administration's (NOAA's) U.S. Climate Resilience Toolkit. During these workshops, participating state agencies identified climate risks and vulnerabilities facing New Mexico, developed strategies to increase resilience and address these challenges, and created a preliminary action plan for implementing selected strategies in each resilience theme. The collaborative workshops built interagency connections and support for statewide resilience efforts.



Organ Mountains, NM; Bob Wick, BLM

What is New Mexico's Climate Adaptation and Resilience Plan?

Strengthening the resilience of New Mexico's communities and ecosystems will be critical to ensuring that people and places across the state can thrive amidst climate change and other changes related to social, economic, political, and technological conditions. Building resilience requires that we understand our current context and anticipate change. We do this by considering projections of future climate conditions and learning from past experience so that we can proactively address sources of vulnerability and build our capacity to adapt, recover, and realize a better future for all New Mexicans.

This plan is intended to be a living document that reflects the State of New Mexico's commitment to resilience through an all-of-state-government approach. It provides a framework for considering multiple facets of resilience and action and should be understood as a next step in a sustained effort to enhance the resilience of communities across New Mexico. The State will engage communities, local governments, Tribes, Pueblos, and Nations in dialogue on building resilience and will incorporate this feedback into the plan.

Gila River, Adobe Stock Photo

Building Resilience: *To prepare for changes New Mexico is likely to face, it is important to anticipate a community's risk of experiencing events such as natural hazards, cybersecurity attacks, pandemics, and economic transitions that impact the ability of people and natural systems to maintain their livelihoods, health, and wellbeing. To reduce the potential destructive impacts of extreme weather events, it is important to proactively identify and address vulnerabilities or factors that increase the likelihood that communities will experience adverse impacts in the wake of disasters and other changes. Learning from existing information and drawing from past experience to create innovative, resourceful solutions to new and changing conditions is also critical. Investing in and building upon community sources of strength to create access to resources and opportunities that enable people to thrive plays a big role in building capacity to weather challenges and environmental changes.*

RIO GRANDE BRIDGE, TAOS COUNTY, NM; DYLAN MAUSTIN, CC

ANTICIPATING CLIMATE CHANGE RISKS AND IMPACTS

To enhance resilience and better prepare New Mexico to proactively tackle the challenges arising from a changing climate, it is crucial to anticipate what the future holds for the state. *This section utilizes information from existing reports and assessments to outline climate-related trends that are expected to impact New Mexico. It discusses who will likely be affected first and worst by these changes and provides examples of associated risks, vulnerabilities, and impacts.*

Extreme Weather and Climate Change

Communities throughout New Mexico are already experiencing extreme weather events and other effects of a changing climate.[1,2] Increasing temperatures and greater variability in precipitation have profoundly influenced the level of exposure, likelihood, and impacts of several of the state's climate hazards – including wildfire, drought, floods, and extreme temperatures. New Mexico's size and geographic diversity result in a complex climate risk profile. The state's arid lowlands and forested peaks experience very different climatic pressures (both shocks and stressors), including temperature, precipitation, wind, and other extreme weather. All hazards manifest in distinct ways based on location and the unique local environment. Government operations, critical infrastructure, natural resources, economies, culture, and the health and vitality of all New Mexicans are being affected.

This plan builds off previous work done by the State and others to better understand these current and future risks.

Shocks *refer to acute environmental, social, or economic events that challenge human and environmental systems that communities rely on. Shocks might include things like natural disaster events, pandemics, abrupt economic transitions, and cyber security attacks.*

Stressors *refer to chronic pressures that affect people and natural, managed, and socioeconomic systems. Multiple stressors can have compounding effects. Stressors include things like racial discrimination, chronic health conditions, economic distress, housing insecurity, uninsured status, eroding infrastructure, and prolonged drought.*

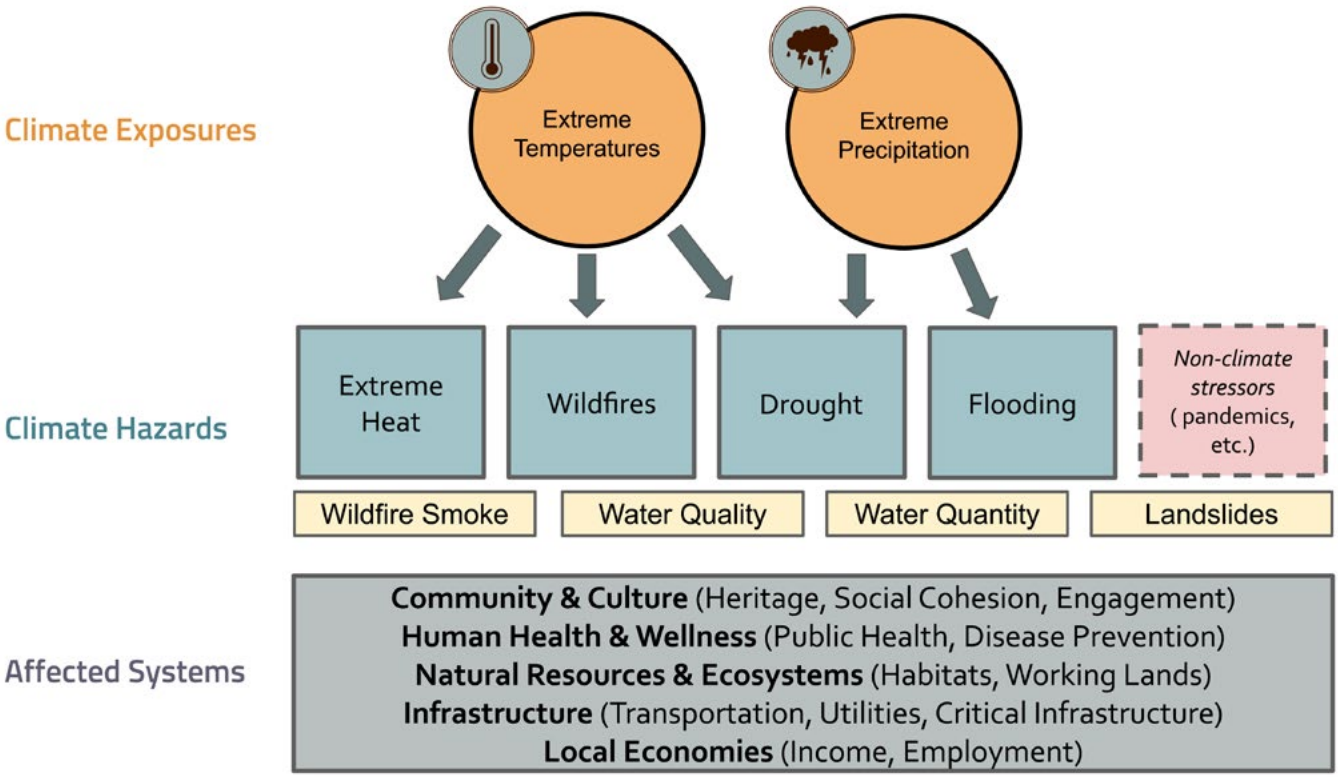


Figure 2: Schematic overview of how changing climate exposures (increasing temperatures and changing precipitation patterns) influence climate hazards, which, in turn, can affect all aspects of our New Mexican communities. The diagram is meant to be illustrative and not exhaustive of the connections between these drivers of change and their impacts.

New Mexico is no stranger to the shock and devastation of extreme weather-related disasters. The 2022 Hermit's Peak/Calf Canyon Fire, the largest and most destructive in the state's history, burned 534 square miles and was exacerbated by unseasonably hot and dry conditions and high winds.[3,4] Congress allocated almost $4 Billion to support New Mexicans affected by these events and FEMA has paid out more than $84 Million in Public and Individual Assistance Program funding to homeowners, businesses, Tribes, and local governments.[5,6] The National Centers for Environmental Information states that since 1980, there have been 36 confirmed weather/climate disaster events with losses of more than $1 Billion each in New Mexico.[7] Drought and wildfires are the most common contributors to these events, with an average of two events a year occurring over the last five years. While significant, these financial figures do not capture the true extent of impacts on New Mexico communities. Infrastructure, homes, economies, livelihoods, and nearly every aspect of the state's social and cultural fabric are being affected.[8]

Adaptation *refers to adjustments to human and natural systems that leverage opportunities and moderate adverse impacts of actual or expected climate or other changes.*[16,17]

Mitigation *refers to actions to reduce the emissions of heat trapping gasses or enhance absorption of these gasses to avoid the long term and most severe impacts of climate change.*

Disproportionate Impacts, Equity, and Resilience

Not all New Mexico communities will be affected equally by these changing conditions. Some individuals and communities are more likely to experience adverse impacts due to factors that go beyond mere exposure to a hazard or other disruption. For example, it can be challenging for under-resourced community members to prepare for and recover from events like extreme heat, flash flooding, wildfires, and economic transitions. High energy costs have been shown to disproportionately increase the financial burden on individuals or households in low-income or rural areas.[10,11,12] Structural inequities such as limited access to healthcare, limited energy access and security, and housing instability as well as chronic stressors such as racial discrimination, linguistic isolation, and chronic health conditions affect an individual's or community's access to resources, services, and opportunities. This can be true for overly burdened communities across the state including Tribes and Pueblos.

*An **Overly Burdened Community** is a community or population for which multiple systemic burdens (including environmental and socioeconomic inequities) negatively affect their health, economic prosperity, and environment. These populations include, but are not limited to, people of color, women, Tribal communities, immigrants, youth, low-income or no-income earners, rural communities, and communities dependent on extractive industries.[9]*

Additionally, climate exposures, sensitivity, and the ability to adapt will vary among populations and between communities given economic factors, relative availability of resources, and local and individual capacity. Climate (and other disruptions) coupled with various systemic challenges, limit overly burdened communities' capacity to prepare for and respond to upcoming climate and environmental challenges. Bolstering sources of community strength like economic stability, housing security, mental health support, cultural connections, and social connectivity is important so that our communities have the capacity to meet current needs, avoid adverse impacts, and adapt when a shock occurs.

As the State of New Mexico works to reduce the impacts of climate change, it is important to identify and support the communities that will be hit first and worst and to ensure that policies, programs, and investments benefit all New Mexicans equitably. Data can help identify communities' baseline vulnerability as well as areas that can be strengthened to prepare for the future and build resilience. There are several data-related tools available that can be used to help identify potentially overly burdened communities around the state. For example, the New Mexico Department of Health (NMDOH) has a tool that tracks heat-related illness across a variety of demographics.[14] The Centers for Disease Control and Prevention's Social Vulnerability Index combines social and economic indicators to examine a wide range of factors affecting social vulnerability to natural hazards and other shocks and stressors.[15]

Partnerships with Tribes, local communities, and other entities are critical to understanding and proactively addressing challenges and barriers that impact the ability of communities to access resources and opportunities that enable people to adapt and thrive.

Examining historical climate and weather patterns and exploring future climate projections offers valuable insights into present trends and future conditions. Planning at all levels will need to focus on a resilient future, emphasize climate-informed policymaking, and ensure resource allocations address both current and long-term concerns to adequately address these challenges. It is important to both reduce the emission of heat-trapping gasses (referred to as climate mitigation) and prepare for future efforts to effectively respond to a changing climate, reduce risk, and support all New Mexican communities (referred to as climate adaptation).

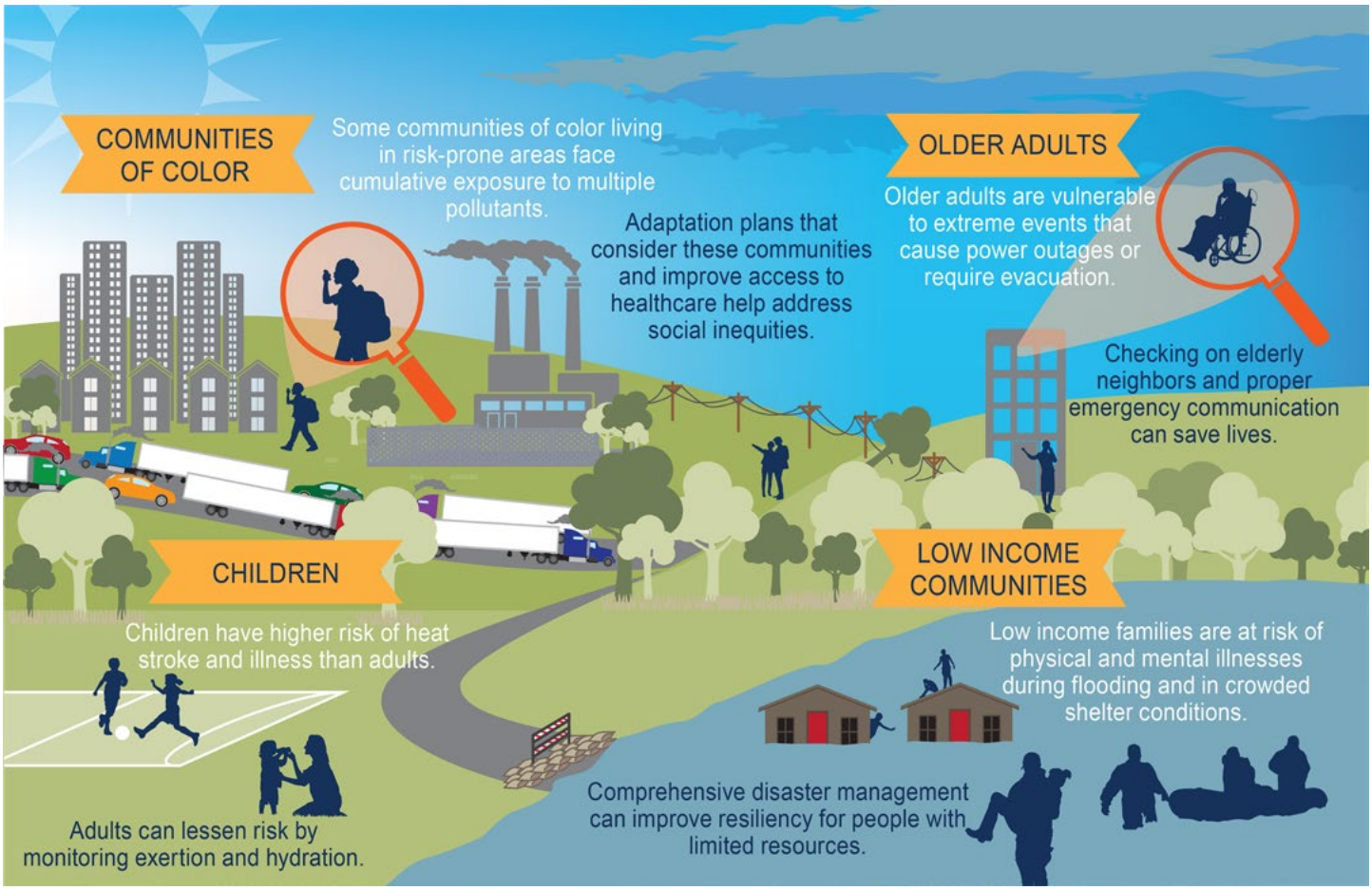


Figure 2: Not all people are affected equally by climate change and extreme weather events. These shocks and stressors have differential impacts on communities based on a variety of factors including socio-economic, demographic, and other social determinants of health which include legacies of discrimination and disinvestment. Image from Health and Human Services Source: https://www.hhs.gov/climate-change-health-equity-environmental-justice/climate-change-health-equity/index.html [13]

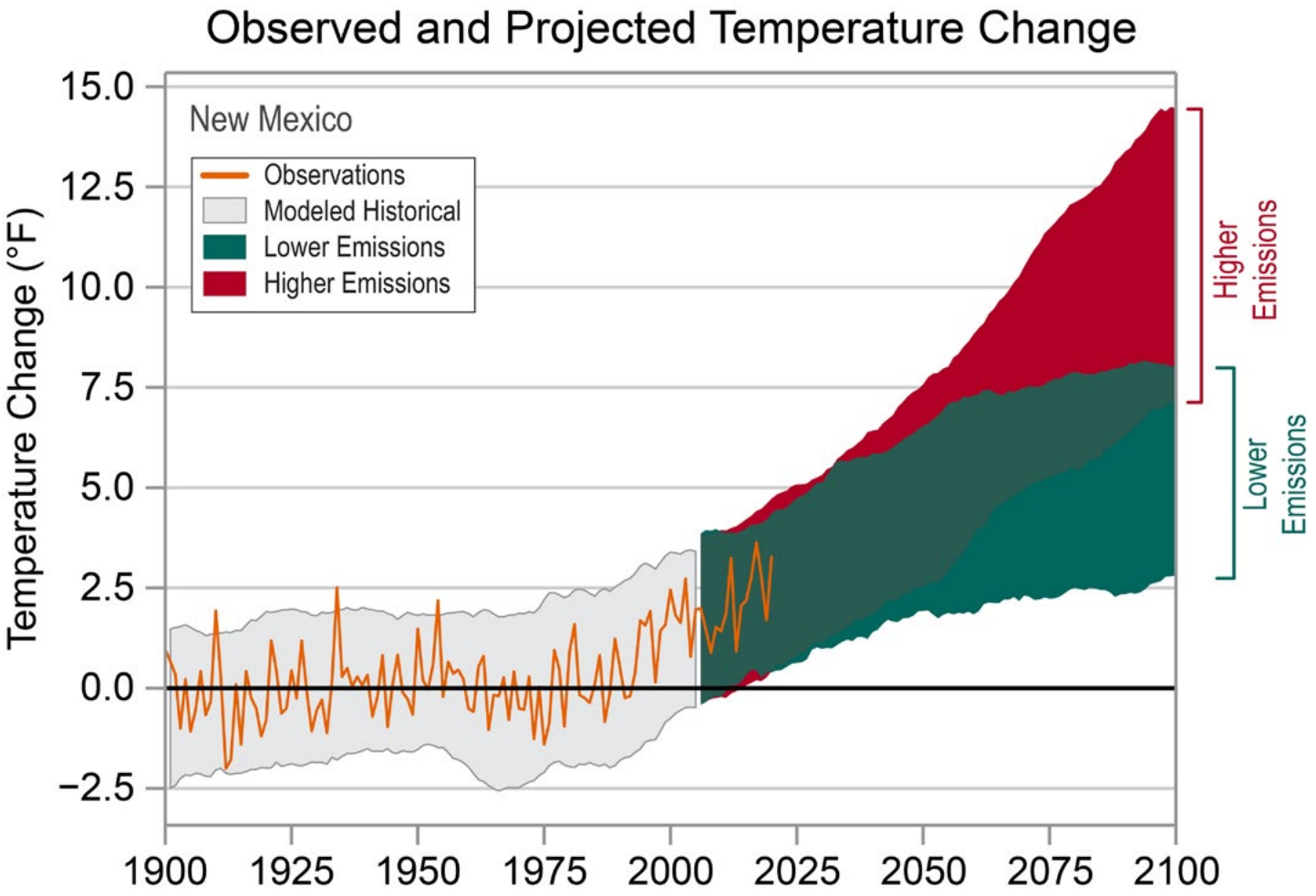
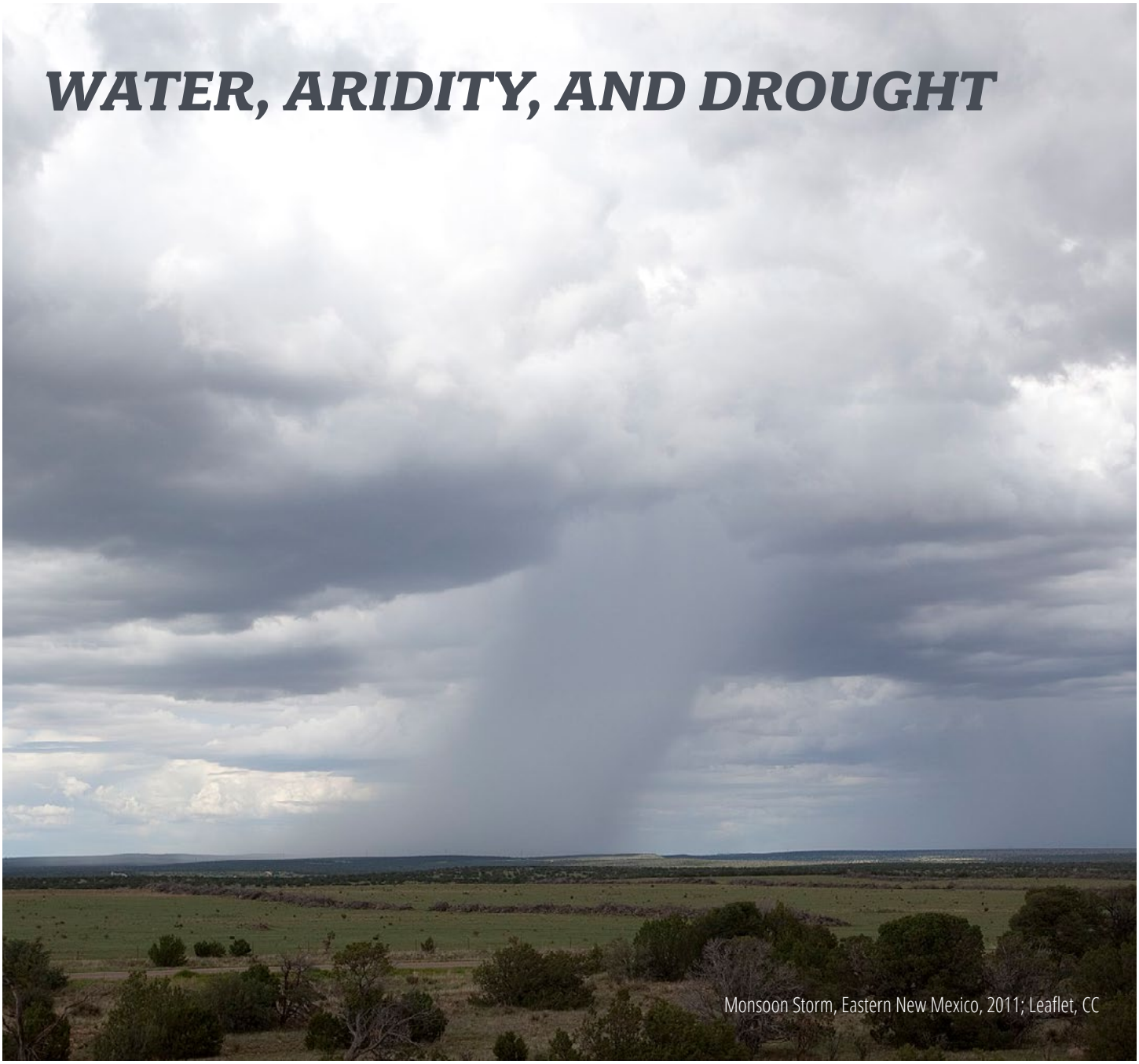


Figure 3: Observed and projected changes for the State of New Mexico. Observed data (orange line) from 1900-2020 show temperatures have risen more than 2°F since the beginning of the 20th century. Projected changes from 2006-2100 for two climate scenarios are show in the green and red bars. The "higher emissions" scenario (RCP 8.5) represents a future where emissions of heat trapping gasses continue to increase. The "lower emissions" scenario (RCP 4.5) represents a future where emissions increase much more slowly. Temperature change is shown relative to the 1901-1960 average Source: National Centers for Environmental Information. 2023. State Climate Summaries: New Mexico. NOAA. New Mexico - State Climate Summaries 2022 (ncics.org)[18]

Climate Risks and Vulnerabilities

Rising temperatures and changing precipitation patterns are the two primary climate drivers for the state. As temperatures increase (see Figure 3), so will the threat to life and public health, property, and infrastructure, and to the state's natural resources and agriculture. Along with shifting precipitation patterns, higher temperatures will increase evaporation, shift the timing and amount of snowfall, and affect other aspects of the hydrologic cycle. Periods of too much or too little water will increase in intensity, creating an alternating cycle of flood and drought. Prolonged drought coupled with increasing temperatures can increase the risk of wildfires. Droughts can also contribute to water scarcity and water quality issues, while wildfire smoke and dust storms can decrease air quality and create direct and indirect public health impacts. Heavy rain increases the risk of flooding, landslides, and erosion.

WATER, ARIDITY, AND DROUGHT



Monsoon Storm, Eastern New Mexico, 2011; Leaflet, CC

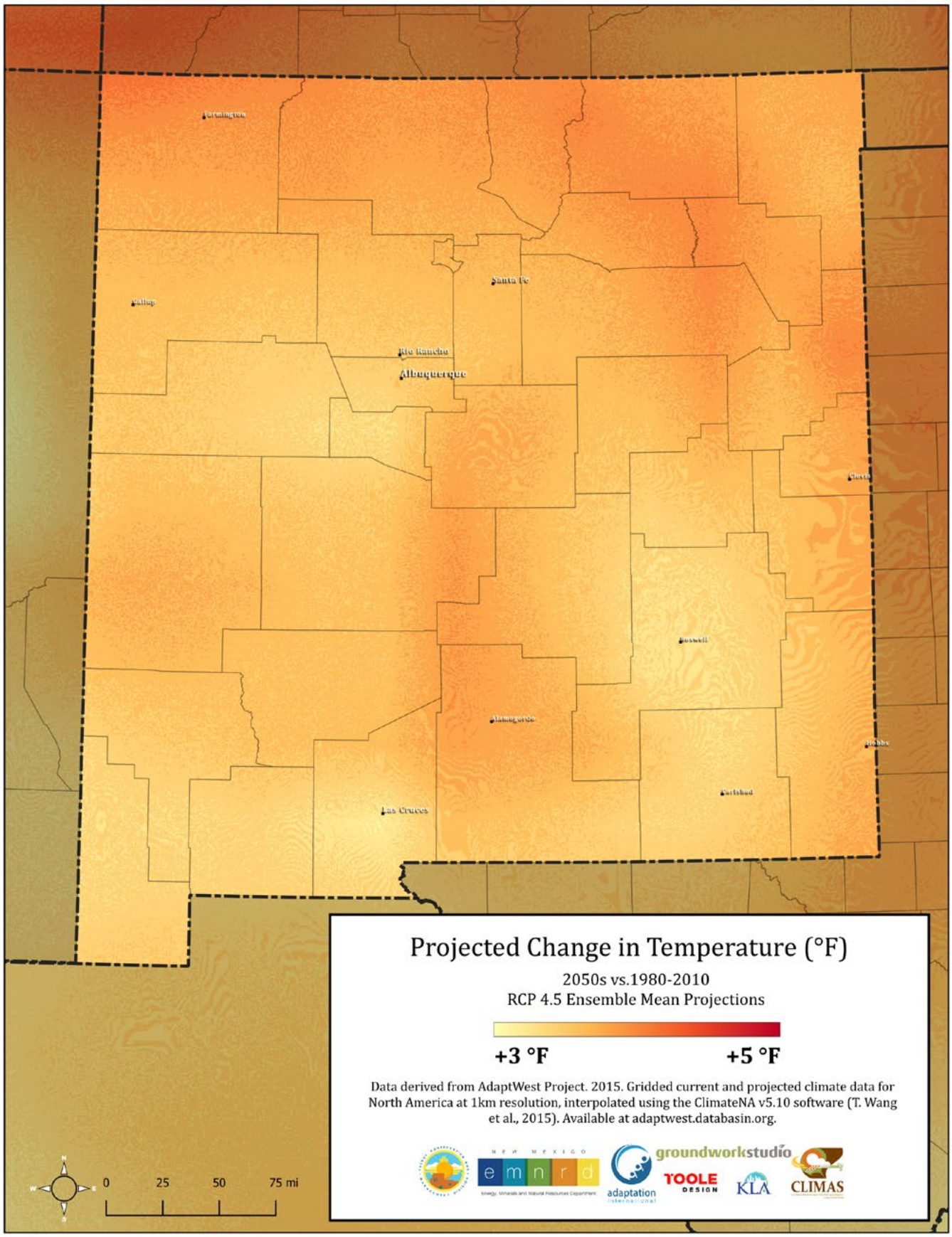
New Mexico's rich and diverse history of practices around water use will be challenged as the climate continues to warm. By the time New Mexico became a territory of the United States, centuries of water planning and management had already shaped cultures and landscapes in the region. New Mexico is fortunate to have access to wisdom earned through long inhabitation. While the State has been involved in regional drought planning for more than 20 years,[19] Since 2001, New Mexico's Drought Task Force has been engaged in efforts to address drought conditions throughout the State. The Active Water Resource Management initiative launched in January 2004 in response to continued drought conditions in our state and provides tools to manage water resources. With the adoption of the Regional Water Planning Security Act in 2023, the State will continue regional water planning efforts that first began over 30 years ago. The work of modern planners strives to incorporate the expertise of water users and protectors

throughout the state and to respect the knowledge and cultures that form the foundation of New Mexico.

Multi-year droughts have been a consistent part of New Mexican history for hundreds of years. Warmer temperatures will lead to more evaporation, transpiration (water used and evaporated by plants), and less snowpack.[20] Climate-driven hydrological modeling summaries in the LEAP Ahead Report (2022)[21] indicate a 25% decrease in surface water runoff and groundwater recharge in the next 50 years. This will affect the quantity of water available for agriculture, working lands, and our communities. Increasing aridity will make growing some crops less feasible[22] and will affect the health and vitality of ecosystems across the state, making them more susceptible to disease and pest outbreaks, wildfires, and other changes.[23,24] Decreases in vegetative cover can accelerate erosion, speed up the loss of topsoil, and exacerbate dust storms, with direct impacts on infrastructure,[25] water quality,[26] transportation,[27] and health.[28]

Rural communities, particularly those reliant on agriculture, often bear the worst socioeconomic impacts of drought through crop failures and reduction in income.[29] Households that experience property damage or financial fallout from droughts are more likely to experience adverse mental health impacts like anxiety and stress.[30] Drought conditions can cause water stagnation and concentrate pollution, increase the likelihood of transmission of vector-borne diseases, and negatively affect those with chronic health conditions such as asthma or immune disorders.[31]

Drought Stricken Sheep, Rio Arriba County, 2002; Jeff Vanuga, USDA, CC


Farmington
Santa Fe
Gallup
Rio Rancho
Albuquerque
Roswell
Las Cruces
Hobbs
Carlsbad
Projected Change in Temperature (°F)
2050s vs.1980-2010
RCP 4.5 Ensemble Mean Projections
+3 °F
+5 °F
Data derived from AdaptWest Project. 2015. Gridded current and projected climate data for North America at 1km resolution, interpolated using the ClimateNA v5.10 software (T. Wang et al., 2015). Available at adaptwest.databasin.org.
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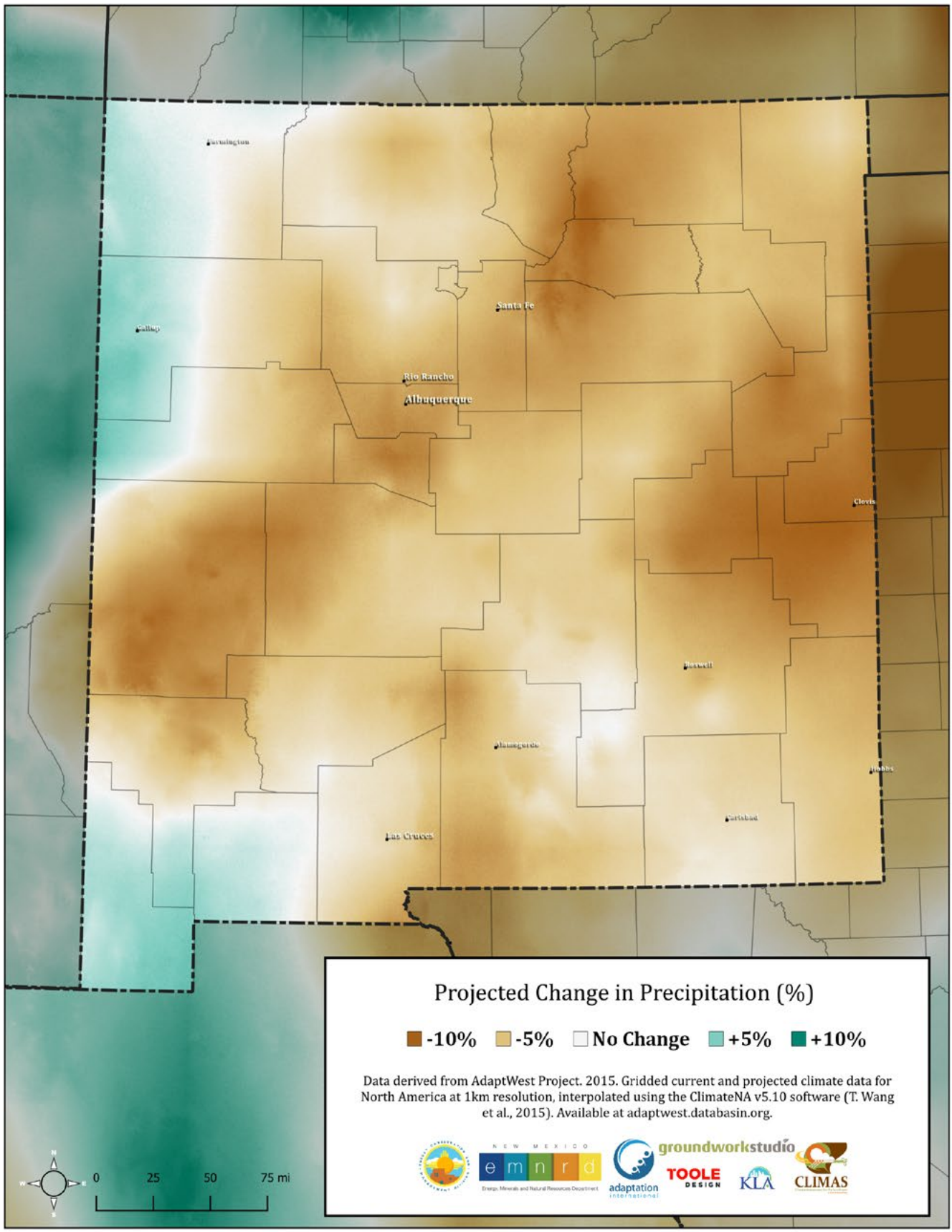
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Projected Change in Precipitation (%)
-10%
-5%
No Change
+5%
+10%
Data derived from AdaptWest Project. 2015. Gridded current and projected climate data for North America at 1km resolution, interpolated using the ClimateNA v5.10 software (T. Wang et al., 2015). Available at adaptwest.databasin.org.
NEW MEXICO
emnrd
groundworkstudio
adaptation international
TOOLE DESIGN
KLA
CLIMAS

EXTREME HEAT

Lake Valley, Sierra County, NM; QKC, CC

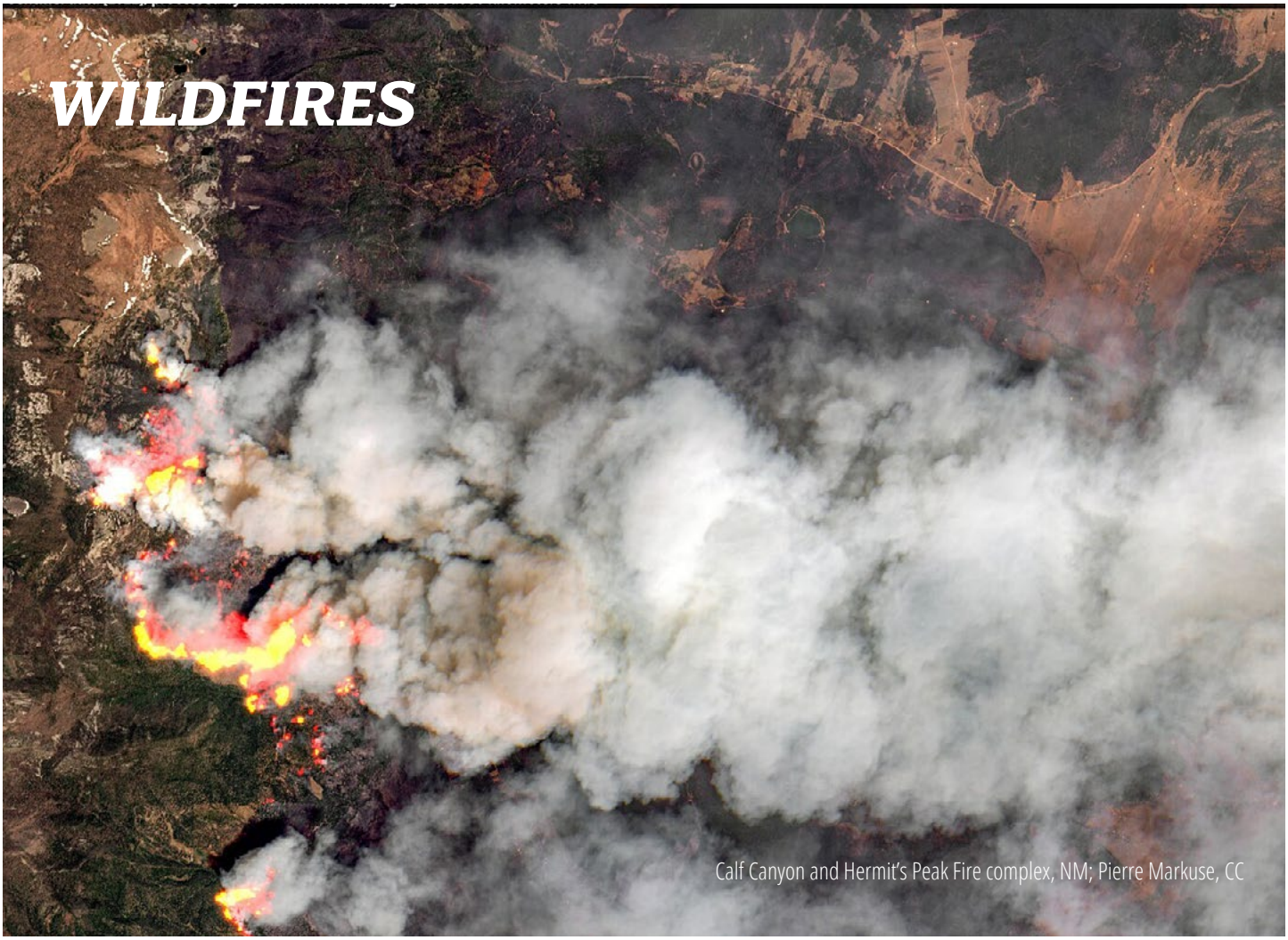
Warming temperatures will also make extreme heat days or heat waves more frequent and severe. Extremely hot days can hamper economic productivity and impact public health by causing illness or even death.[32, 33] Extreme heat is the number one natural hazard related cause of death in the United States and is a significant cause of death worldwide.[34] By 2050, New Mexico is projected on average to see at least twice as many dangerously hot days per year, with some areas in the southern part of the state increasing even more. For example, in Doña Ana County, days over 100°F are projected to more than triple in the next 30 years.[35] Statewide, there were ten times as many heat-related deaths in 2021 than 2013.[36] In 2020, the New Mexico Department of Health received reports of 340 heat-related illness hospital visits. Heat-related emergency visits and hospitalizations in New Mexico are predicted to double by 2030.[37]

The public health impact from heat depends on the make-up of a community or population. For example, older adults, children, and individuals with pre-existing health conditions are more likely to experience adverse health effects from heat.[38] People with certain health conditions,

such as cardiovascular diseases, respiratory diseases, and diabetes, are more susceptible to the effects of extreme heat.[39] People who work outdoors, such as agricultural workers, construction workers, and landscapers, are at higher risk of heat-related illnesses due to prolonged exposure to high temperatures. The people who occupy these jobs are more likely to be from overly burdened groups. Low-income residents may also face disproportionate adverse health effects from extreme heat if they do not have access to adequate air conditioning due to energy costs or appropriate home weatherization.[40]

Dog in Shade; Coastal Elite, CC

WILDFIRES



Calf Canyon and Hermit's Peak Fire complex, NM; Pierre Markuse, CC

The risks associated with wildfires, like the ones experienced in the last few years, are likely to increase. New Mexico already experiences 50 more days a year of extreme wildfire risk than it did in the 1970s.[41] Wildfires can directly impact people and property damaging homes and infrastructure, injuring or killing people, pets, and animals, and destroying forests and other ecosystems. The indirect effects of wildfires, including smoke inhalation, poor air quality,[42] disruptions to critical infrastructure, environmental degradation, and other problems, can and often do have an impact on the lives, economy, and health and well-being of New Mexicans. The State has explored these risks in greater detail in the 2020 Forest Action Plan.[43]

New Mexicans who live in the Wildland Urban Interface (the areas that contain a mix of human development and forested lands) or in forested areas are more likely to be directly affected or face physical harm from wildfires, but wildland fires are no longer constrained to mountainous areas. Residents with transportation or mobility challenges may be less able to move out of harm's way during a wildfire event. Residents and visitors for whom English is not their primary language may face difficulties interpreting evacuation and other emergency related communications. This can quickly turn into a public health threat. Smoke from local and regional wildfires can travel long distances and can be particularly challenging and harmful for older adults, children,[44] and residents with repiratory disease or heart failure.[45]

FLOODING

Flood Debris Barrier, FR263, Montezuma, NM; Matthew Koval, CC

Flooding can impact infrastructure, buildings, and people located in and around floodplains or in areas susceptible to landslides or debris flows post-wildfire. Currently, 17% of New Mexican properties (144,816 properties) have a greater than 26% chance of being flooded in the next 30 years,[46] and flash floods, particularly from summer thunderstorms and monsoon rains, pose real risks to people and property.[47,48]

Residents living in floodplains or low-lying areas are the most likely to be in the path of flooding and experience the direct impacts of these floods,[49] but flood impacts are common outside FEMA designated flood zones.[50] Those individuals or families with limited mobility or transportation challenges, who are unable to receive timely notifications in the appropriate language, or who are living in substandard housing are likely to experience the worst impacts. The long-term effects of flooding and the associated trauma related to the loss of property, loss of sense of place, and the burdens of dealing with under-supported recovery efforts can affect the mental health of those affected.[51]

It is critical for the State to develop effective and trusting relationships with Tribes, community based organizations, and individuals across the state to identify partnership opportunities and enable effective resilience-building initiatives. Many agencies actively involve community organizations and other stakeholders from underserved areas of the state, many of whom

represent communities that are among the most affected by natural hazards worsened by climate change. Equity is a cross-cutting resilience principle of this plan. Equity Principles[52] that were developed for the Climate Change Task Force by a climate equity working group comprised of community advocates and environmental justice experts from around the state will help guide the development of climate policy actions.

Flooding, Pueblo Alto Neighborhood, Albuquerque, Groundwork Studio

SPRING, GILA LOWER BOX CANYON WILDERNESS STUDY AREA, NM; MIKE HOWARD, BLM

RESILIENCE THEMES, STRATEGIES, AND ACTIONS

Applying a Resilience Framework to Help Communities Thrive

Building resilience requires considering the nexus of human and ecological factors that underpin community functions and employing a holistic, systems-oriented approach to action. For example, a resilience approach to the economy focuses not only on successful and resilient industries and businesses but also on workers' needs for personal, family, and community resilience. It considers the policies, physical infrastructure, telecommunications, healthcare, food security, housing, equity, and other factors that are important to support a thriving economy. It also considers the ecological underpinnings that communities and economies depend on and how economic and other human activities affect ecological functions.

This plan outlines a series of themes and associated strategies as a framework for building a more resilient New Mexico. The State will continue to develop actions as it engages with Tribes, local governments, non-governmental organizations, and communities across New Mexico to collaboratively strengthen resilience statewide.

Qualities of Resilient Systems

State agencies drew from the Rockefeller Foundation's 100 Resilient Cities Initiative and the Qualities of Resilient Systems[53] identified during that project. Consideration of these qualities helped guide thinking about strategies that could increase resilience in each thematic area. The original description for each quality has been adapted to reflect what state systems might look like if they embodied these qualities.

Flexible - administration, operations, policies, programs, and actions can evolve on multiple time scales and readily adapt to change.

Inclusive - there is broad inclusion and engagement with communities - particularly those that are overly burdened and haven't participated in planning processes or operations in the past.

Integrated - state agencies work together across different spatial and time scales to exchange information and respond quickly to needs or challenges. They also work directly with local programs and other relevant entities.

Robust - systems can handle shocks and stressors without significant damage or loss of function.

Redundant - agencies, departments, and systems are not overly reliant on single assets or resources and have multiple pathways and avenues for fulfilling system needs

Reflexive - state systems are designed to learn and improve over time. They are able to share this learning across departments and agencies and with local partners.

Resourceful - state agencies and departments can anticipate future conditions, set priorities, and come up with novel and innovative solutions to new or emerging challenges.

Cross Cutting Principles for Resilience

Over the course of the planning process, the interagency climate adaptation and resilience planning team identified cross-cutting principles that express how the state would like to approach resilience-building initiatives. These cross cutting principles are important to building resilience in New Mexico and are intended to be applied across all resilience strategies and actions.

Use Data: Data-informed initiatives can help us understand the challenges communities face so that we can develop effective solutions. We acknowledge the value of both quantitative and qualitative data, including community stories and local and traditional knowledges[54], to gain a holistic understanding of important contexts, create meaningful measures of success, monitor progress, and continuously improve our work. Collaborating with various state agencies, Tribes, communities, and other partners can help access valuable information, fostering an informed approach to building resilience across the state.

Focus on Outcomes: A focus on outcomes can help us track where we are in relation to our goals. Identifying and specifying metrics and outcomes can inform choices about what we can do to get us from where we are to where we want to be. As we approach resilience work across the state, we strive to identify and pursue targeted outcomes that lead to a thriving New Mexico.

Enhance Equity: We maintain a commitment to equity, recognizing that successfully building resilience in all communities will ultimately increase resilience statewide. We acknowledge the disproportionate impacts of natural and other hazards our state faces and the multiple social, political, and economic factors that increase vulnerability for overly burdened communities. We aim to ensure that resilience-building opportunities are accessible to all, consider the distribution of costs associated with efforts we undertake, and enable an inclusive approach to improving community outcomes as we co-create a more resilient future for every New Mexican.

Customize for Communities: New Mexico is home to a rich and diverse cultural landscape with communities operating in unique contexts. In order to effectively build resilience statewide, Tribal and local community engagement and collaboration is critical. It will be essential for the State to meet communities where they are, customize support and resources to regional or community needs, enhance communication, and develop programs and resources that effectively build local community resilience.

Respect Tribal Sovereignty: Tribes are sovereign nations with the inherent right to govern their people and lands. Tribal sovereignty has existed since time immemorial and is recognized by Article 1, Section 8 of the U.S. Constitution. It is also affirmed through a variety of executive orders, treaties, statutes, and Supreme Court decisions. New Mexico's State Tribal Collaboration Act (SB 196) requires government-to-government interactions between the State and Tribes, Pueblos, and Nations, and it is important to continue to maintain and build strong relationships to enhance resilience.[55]

Build Capacity: Capacity at the state and local levels is needed to make plans and strategies actionable. We acknowledge the critical importance of capacity building to meet community needs and our shared visions for the future. We strive to implement the education, technical support, and trained personnel necessary as a critical component of resilience-building initiatives across New Mexico.

Collaborate: Different agencies, organizations, and sectors possess unique knowledge, relationships, jurisdictions, and expertise needed to address the complex challenges and opportunities facing New Mexico. As we aim to build a more resilient future, the State of New Mexico recognizes the value of leveraging the potential of networked capacity, strives to operate on an interagency basis, and endeavors to create partnerships across sectors and with Tribes and local communities.

Resilience Themes

The interagency adaptation and resilience planning team identified six resilience themes that represent important focus areas for building resilience statewide. Working across these six themes, we can develop an integrated approach that strengthens the resilience of our communities as they navigate the complexities of climate change, extreme weather events, and other disruptions that impact their ability to thrive and adapt. These themes were developed by grouping critical assets at risk of being adversely impacted by anticipated climate trends, followed by identifying opportunities to build resilience. The six resilience themes are:

- **Community and Culture**
- **Ecosystems and Natural Resources**
- **Human Health and Wellness**
- **Water Systems**
- **Infrastructure**
- **Local Economies**

These resilience themes can be used as a tool to think about what is needed for associated systems to effectively support well-being and to identify interconnections among themes. For example, in considering wildfire impacts, people rely on infrastructure for shelter, food, transportation, and healthcare services. If this infrastructure is damaged, it affects a community's ability to thrive. Damage to ecosystems and amenities critical to local economies impacts economic security. Temporary or permanent relocation can impact mental health as people encounter stresses around access to basic necessities and are separated from important and meaningful social and cultural assets and resources.

When considering programs and initiatives focused on enhancing resilience in one thematic area, it can also help identify secondary co–benefits to other resilience arenas. For example, a road project might create a route from point to point but also enable multiple evacuation and supply distribution options and better connect community members to services and opportunities in a region.

COMMUNITY AND CULTURE

Strategies in this resilience theme focus on empowering communities to preserve and draw upon their cultural heritage and traditional knowledge to enhance social cohesion, community engagement, and collective action for resilience.

ECOSYSTEMS AND NATURAL RESOURCES

Strategies in this resilience theme address the protection, restoration, and sustainable management of natural resources and ecosystems to strengthen ecological resilience and maintain the services these ecosystems provide to our communities.

HUMAN HEALTH AND WELLNESS

Strategies in this resilience theme prioritize public health and well-being to build resilience in the face of public health crises and both chronic and acute environmental health risks, ensuring access to healthcare services, mental health support, and effective disaster preparedness and response.

WATER SYSTEMS

Strategies in this resilience theme are dedicated to strengthening the resilience of water-related infrastructure, encompassing water supply systems, wastewater treatment, and flood management. The primary goal is to enhance water quality and distribution, while protecting or improving equitable access and water security for all.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

Strategies in this resilience theme focus on enhancing the resilience of physical infrastructure, including critical facilities, transportation networks, and social/cultural assets, to withstand and recover from extreme weather events and other disruptions, while also supporting the daily activities of New Mexicans in a sustainable manner.

LOCAL ECONOMIES

Strategies in this resilience theme strengthen local economies by promoting economic diversification and industry mixes that reduce greenhouse gas emissions, support small businesses, foster job creation and workforce development opportunities, and encourage sustainable industry practices.

Resilience in Action:

San Ildefonso Pueblo Community Climate Action Plan

Climate change is already affecting the lands and ecosystems that Tribes and Pueblos across the state have stewarded for generations. Tribal leaders are very concerned about the impacts of climate change to their land and livelihoods. The potential loss of access to culturally important resources is an unprecedented challenge to community wellbeing.

Tribal members had already brought up their observations of environmental changes to Tribal Leadership ahead of the climate resilience planning process. They had noticed increases in temperature, wind, dust, and fires, as well as declines in different bird species, particularly hummingbirds and native bird species. Elders recounted vegetation changes due to climate change, decreases in traditional herbs, and the negative impacts wildfire has had on soil health over the years. Decades of Los Alamos National Lab nuclear research and operations had introduced contamination to Tribal water resources.

Recognizing this concern and the need to build on community sources of strength, the San Ildefonso Pueblo initiated a series of community workshops to envision what a climate-resilient future would look like and chart a path forward so that future generations could thrive. The community workshops tapped into the knowledge and perspectives of youth and elders to glean valuable multi-generational perspectives. Outreach to Tribal members was tailored to create an inclusive approach and included translation services and meeting people in places they were most comfortable. With a foundation of proactive planning and an inclusive engagement process that generated community buy-in, the community is working together to support a more resilient future for the Tribe. To learn more: https://abtmeetings.com/climatechangeplan/index.html

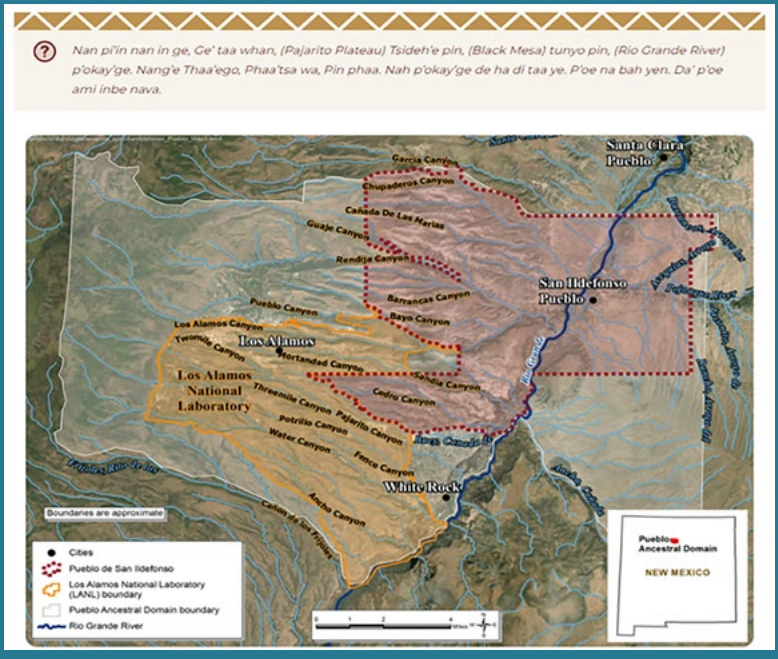


Image from San Ildefonso Pueblo Website

COMMUNITY AND CULTURE

Strategies in this resilience theme focus on empowering communities to preserve and draw upon their cultural heritage and traditional knowledge to enhance social cohesion, community engagement, and collective action for resilience.

Acequia Madre, Santa Fe, 2022; Netherzone, CC

Community engagement, social cohesion, capacity building, and equitable access to resources are all integral to resilience.

Resilience should be considered at every state agency and requires a thorough understanding of both the challenges and potential solutions that may be applied at the state-level. To truly be successful, resilience initiatives should draw from local knowledge, build upon community sources of strength, including social and cultural support systems, and empower communities to adapt and evolve to changing conditions. By fostering strong social connections, empowering local leaders, and investing in community-driven initiatives, the strategies identified in this theme aim to enhance the overall resilience of New Mexico's communities. This theme underscores our commitment to building a socially cohesive and connected society for all New Mexicans that can collectively navigate the challenges of climate change while ensuring that no one is left behind.

CC_1. Build the capacity of state agencies to incorporate resilience into programs and operations.

Augmenting New Mexico's capacity to continue to build resilience requires developing the support necessary to help state agencies enhance their programs and increase their capacity to meet the needs of New Mexican communities and residents now and into the future. Capacity-building efforts could include developing common definitions of resilience, defining metrics of success, and hiring additional staff to support agency operations.

CC_2. Work with local communities and utilize data-informed approaches to create equity-focused, culturally responsive policies, resources, and opportunities that enhance resilience.

Developing programs and resources that meet communities where they are will help address the diverse resilience needs across New Mexico. Utilizing a variety of information sources, including quantitative and qualitative data such as community stories and traditional knowledges, will help incorporate important contexts, develop measures of success to track progress, and update initiatives over time. Sharing data for decision making, as with the Water Data Act of 2019, is already happening in some departments. Collaborating with communities and Tribes to enhance capacity via diverse strategies (including initiatives like climate ambassadors) will enable this work at the local level.

CC_3. Provide education, technical assistance, data-informed analysis, and capacity-building support to local communities as they work to enhance resilience through planning, programs, and initiatives.

Providing targeted and useful support, data, information, and training that local communities can use to identify shocks, stressors, and trends, and proactively plan to address climate-related risks can help make local resilience planning more effective and efficient. While data is critical, it is important to acknowledge that every community faces a unique set of challenges. Resilience planning support will need to be customized to address local challenges and opportunities.

CC_4. Coordinate and streamline state agency outreach and engagement to Tribes and local communities.

Local communities and Tribes will benefit from coordinated and streamlined outreach and engagement efforts that enhance collaboration between them and state agencies. For example, preventing duplicative outreach, providing materials in multiple languages, working with communities to identify ways to more efficiently and effectively communicate information, and taking a holistic multi-agency approach to engagement around specific topics such as workforce attraction and retention are all important efforts that will take additional investments of time and resources. This coordinated approach can decrease the volume of communication and make agency information more accessible and useful to communities. Engagement with Tribes will be done in coordination with the New Mexico Indian Affairs Department.

CC_4: Initial Priority Actions

1. Identify priority focus areas for each Resilience Plan theme.
2. Identify and convene relevant state agencies to identify community and other partners who should participate in a consortium for each thematic area.
3. Establish working groups in statute and then refine a scope of work and strategic community engagement plan for each resilience theme.

State Agency Leads

To be determined depending on priority focus areas for each resilience theme. For example OSE/ISC can lead water focused outreach.

Implementation Timeline

< 18 months

CC_5. Create an aligned, interagency approach to allocating and administering federal funds that maximizes resilience benefits statewide.

Investing in an interagency approach that builds on shared and overlapping work responsibilities between agencies will help the State be more efficient and effective in securing federal funding to support these efforts. There are “once in a generation” federal funds that states nationwide will be administering. Understanding resilience needs statewide and applying that knowledge to funding allocation decisions and how best to coordinate funds administered across multiple agencies can help ensure these investments truly build resilience for all New Mexican residents.

CC_6. Identify and build local community capacity to access funding and implement programs for resilience, adaptation, and greenhouse gas emissions reductions.

While funding and programs that support preparedness planning and resilience may be

available, limited staff time or resources sometimes prevent communities from learning about or accessing these funds. Administrative requirements around applying for funds, developing and implementing new initiatives, and grant reporting requirements can be challenging for communities. State agencies can support communities by finding ways to efficiently provide information about existing resources and address capacity gaps that prevent communities from accessing and utilizing these resources. This state and local collaboration will help ensure funding is used effectively and equitably to build resilience.

CC_7. Create statewide agency specific performance criteria and review processes to monitor the integration of resilience into state agency programs and operations.

As the climate continues to change, it is critical to evaluate the success of initiatives and programs. Developing performance standards with annual reporting and monitoring mechanisms can help integrate resilience into state agency programs and operations. Programs that are working well can be enhanced or expanded, while those that are not achieving the intended results can be adjusted, reworked, or discontinued.

CC_8. Identify and conduct meaningful Tribal engagement around resilience initiatives.

Tribes and Pueblos are sovereign nations, and it is important to maintain and build strong government-to-government relationships through meaningful State-Tribal engagement around resilience initiatives. This State-Tribal engagement, consultation, and collaboration will apply to all of the relevant resilience initiatives.

Scouting Fire Containment Lines, Gila National Forest, US Forest Service, CC

ECOSYSTEMS AND NATURAL RESOURCES

Strategies in this resilience theme address the protection, restoration, and sustainable management of natural resources and ecosystems to strengthen ecological resilience and maintain the services these ecosystems provide to our communities.

Pecos River near Villanueva, NM; National Parks, CC

Ecosystem and natural resource resilience require that we steward our state's natural and working lands in ways that are sustainable and maintain ecosystem services.

Strategies in this theme are intended to help safeguard and restore the health, productivity, and resilience of New Mexico's ecosystems and landscapes. Ecosystems and natural resources include both the wild and working lands that play a role in ensuring the long-term prosperity and sustainability of our communities. Initiatives and interventions include those that seek to protect and enhance biodiversity, promote sustainable land management practices, and preserve important habitats. Watershed preservation, reforestation, wetland restoration, agriculture practices, and land-use planning will all need to be adjusted to consider climate change. These efforts will not only seek to sequester carbon and reduce greenhouse gas emissions, but also conserve water resources, support wildlife habitats, and contribute to community well-being. Strategies in this thematic area reflect our state's commitment to stewarding our land resources in a way that promotes climate resilience, biodiversity conservation, and sustainable livelihoods for present and future generations.

ENR_1. Create interagency programs to encourage land management practices that support local communities, traditional uses, biodiversity, and ecosystem services for both current and future generations.

Healthy ecosystems are critical to maintaining natural and cultural resources. Interagency collaborative approaches to land management that build connections between departments (and with federal agencies) can simultaneously streamline and strengthen programs. For example, the Department of Agriculture, State Land Office, NMED Surface Water Quality Bureau, and Office of the State Engineer are working together to enhance landscapes and remove invasive species. Ideally, these programs can augment agency specific programs and help New Mexico better manage various various individual resources and preserve holistic ecosystem functions in the short and long term.

ENR_2. Work with Tribes and local communities to build upon and further develop a broad range of interconnected policies and programs to conserve surface water and groundwater to meet the needs of New Mexicans and our ecosystems.

Conserving surface and groundwater in a changing climate will require coordinated policies and programs. Building on the work done by the Water Policy and Infrastructure Task Force in 2022-2023, input from Tribes and local communities can support these efforts by coordinating and focusing water conservation efforts, tracking the effectiveness of water efficiency investment, and expanding the scale of these programs and initiatives.

ENR_3. Involve local communities and Tribes in state-wide natural resource planning

Involving Tribes and local communities in natural resource planning can help New Mexico respect Tribal sovereignty and allow those affected by natural resource management decisions to participate in decision-making. It also helps develop the strong partnerships needed for the successful implementation of any conservation, restoration, or resilience projects. Projects such

as riparian restoration can be used to slow stormwater run-off, allow for infiltration, limit erosion during floods, and provide shade to keep waters cool.

ENR_4. Identify ecosystems and regions that are the most threatened by climate-related and human disturbance and customize conservation, adaptation, and monitoring in response to both continued stability and anticipated instability.

Data-informed approaches to identifying ecosystems and geographies most threatened by climate change can help New Mexico utilize available resources more efficiently and effectively. Prioritizing the use of finite resources can help support resources and ecosystems that are being challenged by change. Data such as remote sensing, historical climate and future climate projections, and local long-term data sets can also identify where long-term investments are most likely to be successful. New Mexico Water Data is one example of how agenies are working together to share data and information to inform planning.

ENR_4: Initial Prioity Actions

1. Identify ecosystems and regions that are the most vulnerable to changing conditions as well as those that are projected to be more stable in a changing climate.

2. Understand landscape needs across the state and develop initiatives to enhance ecosystem functions and protect landscapes.

3. Develop resilient investment criteria and prioritize projects that support our ecosystem now and in the future.

4. Define what success looks like for individual projects and for ecosystem wellness.

State Agency Leads

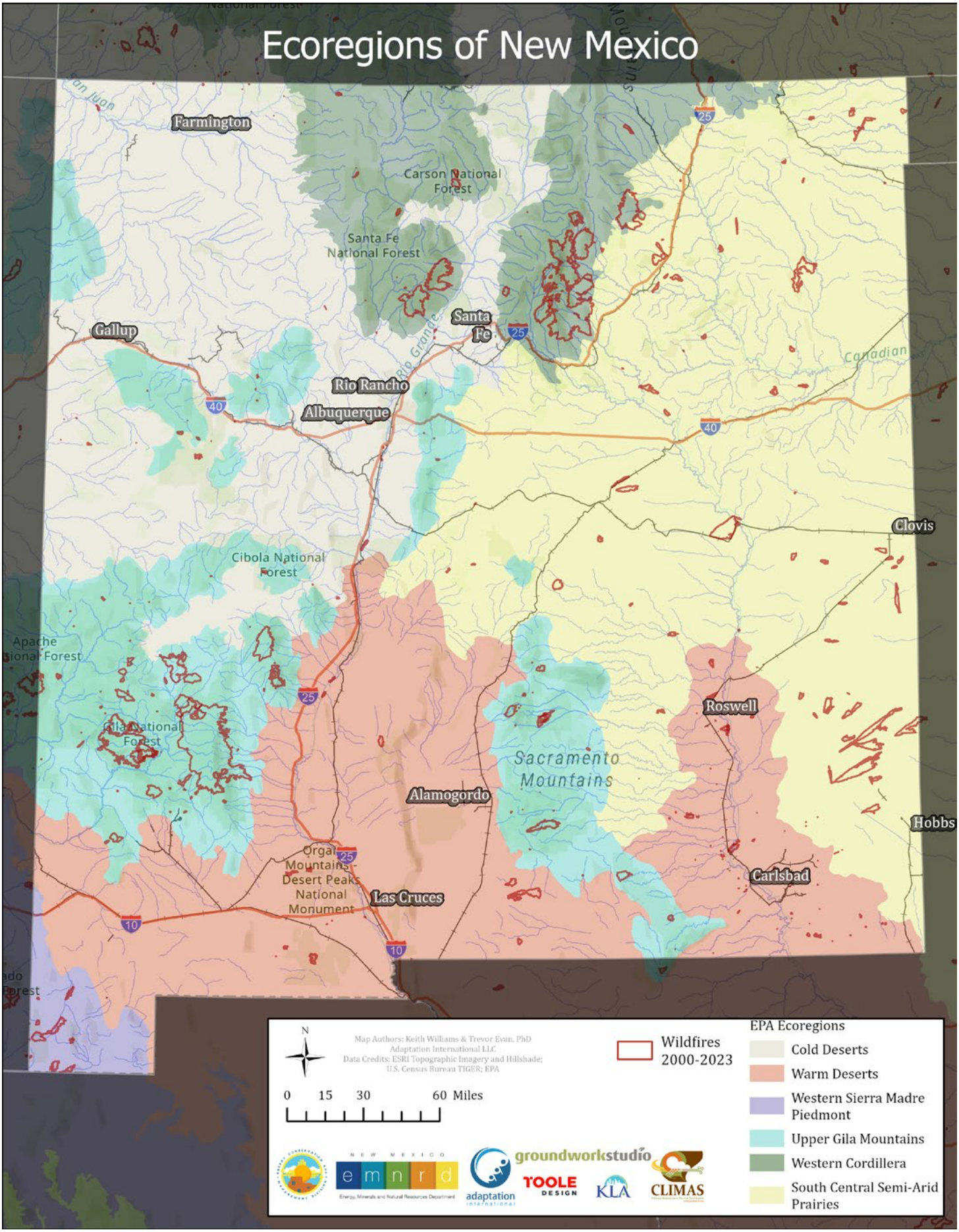
NMDGF, NMSLO, EMNRD, OSE/ISC

Implementation Timeline

2-3 Years

ENR_5. Enhance data-driven monitoring, early warning, and dynamic multi-stakeholder management of ecosystems.

Data-driven monitoring of ecosystems and multi-stakeholder management of ecosystems can help identify how changing conditions are affecting these resources, systems, and species. Expanding the use of and commitment to long-term and community-supported data collection on ecosystem health, species populations, or invasive pest and disease tracking can provide early warning for threats and changes and allow our communities and agencies to respond more quickly. Broadening and strengthening stakeholder collaborations will support effective and multi-faceted coordination, management, and implementation of actions to enhance resilience.


Ecoregions of New Mexico
Farmington
Carson National Forest
Santa Fe National Forest
Gallup
Santa Fe
Rio Grande
Canadian
Rio Rancho
Albuquerque
Clovis
Cibola National Forest
Roswell
Sacramento Mountains
Alamogordo
Hobbs
Organ Mountains - Desert Peaks National Monument
Las Cruces
Carlsbad
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Map Authors: Keith Williams & Trevor Evan, PhD
Adaptation International LLC
Data Credits: ESRI Topographic Imagery and Hillshade;
U.S. Census Bureau TIGER; EPA
0 15 30 60 Miles
Wildfires 2000-2023
EPA Ecoregions
Cold Deserts
Warm Deserts
Western Sierra Madre Piedmont
Upper Gila Mountains
Western Cordillera
South Central Semi-Arid Prairies

HUMAN HEALTH AND WELLNESS

Strategies in this resilience theme prioritize public health and well-being to build resilience in the face of public health crises and both chronic and acute environmental health risks, ensuring access to healthcare services, mental health support, and effective disaster preparedness and response.

Surgical Nurse during COVID 19 Pandemic, US Navy, CC

This thematic area aims to prioritize the well-being and resilience of New Mexico's communities in the face of evolving environmental challenges – both the direct impacts on individuals' physical and mental health, and the ways that public health and medical infrastructure are affected by climate change.

Strategies in this resilience theme address the development of adaptive healthcare systems, enhanced disease surveillance and response mechanisms, and the promotion of community-based social network building activities. A holistic approach to addressing disproportionate impacts is an important part of this work. By integrating climate considerations into our healthcare infrastructure, creatively using community assets (museums, historical sites, and art spaces), fostering public awareness, and strengthening partnerships between healthcare providers, emergency responders, and community organizations, we strive to limit the adverse health impacts of climate change and ensure the continued well-being of residents. Through collaborative efforts and innovative solutions, this thematic area fosters a healthier and more resilient future for all.

HW_1. Support neighborhood organizations and community leaders, through funding and training, to build social connections, proactively prepare, and enhance self-reliance before, during, and after acute crisis events.

Building partnerships with community leaders and developing and providing training on the health impacts of climate change will help augment their understanding of these changes. Weaving this information with local knowledge can help these leaders support their communities and advocate for both short-term and long-term investments in preparedness and response. Priority responses which serve the whole community before, during, and after disasters can help create a more inclusive response that will help ensure community needs are met.

HW_1: Initial Priority Actions

Pilot community climate and health workshops in collaboration with regional health offices and community organizations to address pressing climate and health risks. Workshops could include trainings and resources to make individuals, families and business more self-reliant, better connected, and better informed.

State Agency Leads

DOH, HSD, EMNRD

Implementation Timeline

< 18 months

HW_2. Enhance data driven monitoring and analysis of climate related physical illness, behavioral health, and mental health conditions and trends for overly burdened communities across New Mexico.

By monitoring trends in public health data and using community-based or citizen science where possible, agencies such as the Department of Health will be able to better track and respond to changing climate conditions. The health of our residents, especially those that are affected first and worst by these events, is being affected by extreme weather and other stressors. It is important to gather and share data between state agencies and with local communities to better understand and prepare for those impacts.

HW_2: Initial Priority Actions

1. Create a multi-agency Quantitative Data Taskforce, with local community and academic institutional representation, to assess existing data resources and identify opportunities to merge and share data.

2. Create a multi-agency Qualitative Data Taskforce, with local community and academic institutional representation, to assess existing data resources, identify new potential data sources, and identify opportunities to merge and share data.

3. Update the New Mexico specific social vulnerability index using new data available post COVID-19.

State Agency Leads

DOH, HSD, EMNRD

Implementation Timeline

2-3 years

HW_3. Encourage collaboration across state agencies and with clinics, health centers, and community based organizations, to limit the impacts of extreme heat and drought on overly burdened communities.

Strong, distributed, and diverse health infrastructure is critical to protecting the health and wellness of residents. Interconnected preventative, supportive, and emergency physical, mental, and behavioral health facilities as well as effective management, communication, and community outreach (especially in communities experiencing higher levels of vulnerability, inequity, and that have historically been underserved) can help enhance people's ability to respond, adapt, and thrive.

HW_4. Enhance communication with community based organizations across the State to build trust in State agencies.

Creating opportunities for agencies to interact with the community members and community based organizations before an emergency can help build rapport and trust. Hosting preparedness events and workshops can create spaces for information sharing and collaboration. Partnering and sharing adaptation strategies between state agencies, departments, and local contacts can also help support broader community trust building and engagement efforts.

HW_5. Identify and support community ambassadors in every county to advocate for local health concerns.

Improved communication between state agencies and local organizations enables local knowledge and expertise to guide the application of resources. Key community leaders (such as climate ambassadors or local non-profits focused on community health and wellness) can act as liaisons between local communities and state agencies to articulate community needs, co-design effective strategies, and share data about regional physical, mental, and behavioral health concerns and challenges affecting their communities.

COVID19 Vaccination Clinic, US Navy, CC

WATER SYSTEMS

Strategies in this resilience theme are dedicated to strengthening the resilience of water-related infrastructure, encompassing water supply systems, wastewater treatment, and flood management. The primary goal is to enhance water quality and distribution, with tailored attention to the unique needs of both urban areas (municipal water) and agricultural communities, while protecting or improving equitable access and water security for all.

Eastern New Mexico Rural Water System, Clovis, NM, Stiver Engineering

Water systems, encompassing water supply networks, wastewater treatment facilities, and flood management infrastructure, are essential lifelines for communities, serving both municipal and agricultural needs. These systems are vulnerable to the increasing impacts of climate change, including prolonged droughts, erratic precipitation patterns, and more frequent extreme weather events.

Resilience strategies in this category aim to fortify and adapt water-related infrastructure to enhance water security for all community members and maintain water quality. Additionally, communities play an integral part in the successful operation of water systems. Thus, these strategies promote community engagement, preservation of cultural heritage, and the integration of traditional knowledge to enhance social cohesion and support equitable access to clean and reliable water services. This theme focuses on safeguarding vital water resources, fostering a sense of ownership and responsibility among communities, and supporting the cultural values and practices that are intertwined with water management, all of which contribute to the resilience of communities as they navigate the challenges presented by a changing climate.

WSI_1. Encourage regional approaches to water supply, management, and distribution.

The regionalization of water infrastructure systems can support an integrated approach to water management and distribution specific to the amount of water available, population, and infrastructure system in that region. Local and regional agencies can continue to work with the State on regional water plans and identify opportunities for regional solutions to water supply challenges.

WSI_2. Support regional approaches to building the technical, managerial, and financial capacity of individual water system operators to maintain and upgrade systems across New Mexico.

Water infrastructure is critical to the resilience of local communities across the State. Diverse and distributed water collection, transportation, and purification systems limit single points of failure for large populations. Smaller systems are frequently older, need repairs, and can be inefficient. Enhancing, fortifying, and diversifying regional water infrastructure and providingtechnical support at the state and regional level can help strengthen these systems and improve system operations. Some initial efforts may included conducting water system audits, identifying and reducing losses, addressing key climate threats, and improving efficiency.

WSI_3. Pursue strategies to limit evaporation in surface water storage facilities.

As the climate warms and temperatures increase, evaporative losses from surface water storage and conveyance facilities will continue to increase. Limiting evaporation by providing shade, or covering ponds and irrigation ditches can limit evaporative losses and make more water available for a variety of users.

WSI_4. Develop a statewide policy on regional stormwater management to support collection, infiltration, and aquifer recharge.

Stormwater management helps control run-off from extreme rainfall events and protect against flooding and erosion. Developing clear procedures and design standards for stormwater management can help guide local community efforts, identify areas that can be used to support groundwater and aquifer recharge, and make technical information and approaches more accessible and useful. This will improve investments in comprehensive stormwater management infrastructure.

WSI_5. Identify and address water infrastructure vulnerabilities to natural hazards in ways that enhance structural integrity and protect water quality for municipal and agricultural uses.

Surface water storage facilities across New Mexico such as dams and reservoirs are important for flood control and serve as storage for domestic water supplies. Systems such as pipes and treatment facilities also play an important role in water delivery and the availability of high quality water for human consumption and various agricultural uses. Identifying risks and protecting this infrastructure against long-term decreases in water availability and increases in hazards can preserve water supplies and protect water quality for all New Mexicans.

WSI_5: Initial Priority Actions

1. Identify gaps in the existing water management systems and adjust and expand resources to cover gaps in the existing system. Gaps for rural systems may include, but not be limited to, insufficient staffing, training, or basic knowledge of the mechanics of their water system.

2. Encourage efficiency and reuse of water statewide.

State Agency Leads

DFA, OSE, ISC, NMED, NMDA

Implementation Timeline

18 months

WSI_6. Create resilient water utility systems through long-term resource planning, efficiency improvements, conservation efforts, water reuse, and flexible operations.

Many communities across New Mexico have successfully reduced domestic water consumption through improvements in efficiency, changes in landscaping practices (such as conversion to native and drought tolerant species), and water conservation. Efficient use of available water resources is critical as the long-term supply of surface water decreases and creates the need to further reduce municipal and agricultural consumption and find ways to reuse water. Using the American Water Works Associations Water Audit approach can help identify and reduce water losses in systems and is good first step to converving this vital resource.

WSI_7. Collaborate with communities to enhance acequia functions during extreme weather events and projected changes in water supply.

Acequias are a centuries old technique for distributing surface water resources for agricultural purposes and are part of the cultural history of New Mexico. Extreme events such as wildfires and flooding are decreasing the functionality of acequias and reducing the quality of the water they distribute. Decreases in water availability further threatens the viability of traditional agricultural practices. The State can collaborate with acequia associations to access funding, provide training, and improve the management of acequias. With these resources, our communities that depend on acequias can enhance the economic vitality of their region and maintain cultural traditions.

Acequia Turnout, Adobe Stock Photos

INFRASTRUCTURE & THE BUILT ENVIRONMENT

Strategies in this resilience theme focus on enhancing the resilience of physical infrastructure, including critical facilities, transportation networks, and social/cultural assets, to withstand and recover from extreme weather events and other disruptions, while also supporting the daily activities of New Mexicans in a sustainable manner.

Wind Turbine Workers, Adobe Stock Photos,

Infrastructure, broadly defined, includes transportation networks, energy grids, water supply systems, communication systems, and other critical facilities, as well as social and community assets, healthcare facilities, and cultural institutions. These assets and networks are critical for both daily life and effective responses to extreme weather events.

Strategies in this thematic area intend to fortify, diversify, and enhance infrastructure systems to make them better able to withstand and recover from climate-related exposures and impacts. Critical infrastructure is distributed throughout every county and community and the ability to perform many societal functions are dictated by the capacity of that infrastructure to remain viable during and after extreme events. Investments in innovative climate-informed infrastructure designs, new construction materials and techniques, enhancing and expanding use of nature-based solutions, as well as the distribution and diversification of infrastructure will be critical for these systems to continue to operate and ensure that our communities can thrive as the climate changes.

IBE_1. Support land use and transportation planning decisions that promote mixed use developments in places with low vulnerability to natural hazards and that are connected by multimodal transportation corridors.

Ensuring that the built environment is resilient involves consideration of both where growth occurs and the form that land development and transportation infrastructure takes. Land development policies that encourage development in areas that are the least vulnerable to climate impacts can minimize the impacts of extreme flooding, wildfires, and other natural disasters. Transportation infrastructure should feature a range of travel options to both support State objectives related to the reduction of greenhouse gas emissions and to ensure daily travel needs can be met if a particular roadway or mode of travel is affected by an extreme weather event. Mixed use development and multimodal transportation corridors can also have multiple social, health, and economic benefits which contribute to overall community wellbeing.

IBE_1: Initial Priority Actions

1. Develop state-level land use policies that incentivize growth in locations that are least vulnerable to climate impacts, such as above or out of floodplains.

2. Prioritize multi-modal transportation investments that increase resilience and support a greater range of transportation options.

State Agency Leads

NMDOT, NMSLO, OSE/ISC

Implementation Timeline

1. <2 years

2. 2-5 years

IBE_2. Invest in transportation infrastructure that is more resilient to impacts of flooding, dust storms and other extreme events

Transportation infrastructure connects communities and enables the delivery of crucial goods and services. Disruptions to those services creates isolation, disrupts local economies, and adversely affects quality of life. Infrastructure can be designed to handle higher temperatures and withstand more extreme rainfall events by considering larger design storms, expanding the use of green infrastructure, increasing the size of flood control features, preparing for higher temperature thresholds, and expanding coordination and alert systems for high wind and dust events. Creating redundant systems ensures that extreme events do not disrupt the flow of people, goods, and services.

IBE_3. Develop infrastructure that enables redundant access to services such as food, healthcare, education, and jobs before, during, and after extreme weather events.

Distributed resources and services, with multiple ways to access those services, can enhance resilience. Extreme weather events can be particularly devastating to communities that have limited services or single access points for food, health care, education, and certain jobs. Redundant services and alternative access points (both physical infrastructure such as roads and bridges and virtual infrastructure such as broadband internet access) can help communities prepare for and recover from extreme events.

IBE_4. Improve or enhance the permitting of infrastructure projects with established resilience and greenhouse gas emissions reduction benefits.

Expanding the renewable energy sector is critical for decarbonizing the economy and creating more resilient energy and transportation systems that are better able to withstand both current and future shocks and stressors. Streamlining the environmental review and permitting processes for projects to reduce the time it takes to implement development projects that enhance community resilience, reduce dependence on oil and gas, increase renewable energy generation and electrical transmission, or support the use of alternative forms of transportation, can make these projects more attractive and likely to be completed.

IBE_5. Review, revise, and enhance building design standards in wildfire hazard zones to improve resilience.

Enhancing design standards, hardening homes and buildings, and creating defensible space can help local communities reduce the wildfire risks to the built environment. Land use planning efforts and development decisions should consider wildfire risks and ensure new buildings are sited in locations that are less vulnerable to wildfires.

IBE_6. Support community-level energy efficiency projects, electrical generation, and storage capacity.

Reducing energy use in individual homes and buildings will help conserve and make the best use of the energy that is already available. Decentralized energy generation and storage - including at the individual build, development, or neighborhood level - can ensure that critical services are not disrupted during extreme weather events. These independent and self-reliant sections of

the grid can support critical infrastructure and services such as hospitals, fire stations, resilience hubs, and long-term care facilities and ensure that they are able to continue to operate during and after extreme weather events.

IBE_7. Invest in broadband infrastructure to bolster E-Governance and access to economic, educational, telehealth, and other resources.

New Mexico is a large state and residents from many rural communities must travel long distances to access basic services and healthcare. Improved broadband infrastructure supports local economies, increases opportunities for teleworking and education, reduces dependence on long-distance travel, and ensures that local populations can stay connected if transportation networks are disrupted by extreme events.

IBE_7: Initial Priority Actions

1. Understand broadband coverage levels and gaps across the state.

2. Define broadband in state statute as an essential service and public utility.

3. Create a well connected, statewide broadband network that utilizes public rights-of-way, including NMDOT facilities, to install fiber optic cables as part of roadway and other infrastructure

State Agency Leads

OBAE , DoIT, EMNRD, ECMD

Implementation Timeline

1. <2 years

2. <2 years

3. 5-10 years

IBE_8. Create waste management systems that support a circular lifecycle approach to addressing waste.

Holistic waste management practices can help minimize waste generation while providing a variety of co-benefits. Industrial scale composting at waste processing facilities can be evaluated and used to produce high quality soil amendments that reduces greenhouse gas emissions and increases the productivity and water retention capacity of working lands. Repurposing construction materials from demolition sites can decrease waste, offset the demand of new raw materials, and provide end users with materials at a lower cost.

Bike Route; Mnalis, CC

LOCAL ECONOMIES

Strategies in this resilience theme strengthen local economies by promoting economic diversification and industry mixes that reduce greenhouse gas emissions, support small businesses, foster job creation and workforce development opportunities, and encourage sustainable industry practices.

Downtown Gallup, 2014; Tony Hisgett, CC

The ability of businesses and industries to adapt to change is critical to a resilient economy. Also central to a resilient economy is a thriving workforce. Ensuring a community's workforce has access to affordable housing, mental and behavioral healthcare, quality education, professional development opportunities, transportation, and various factors supporting quality of life is critical. It is important to acknowledge the interplay between climate change and economic vitality and seek to foster resilient and sustainable local economies.

Strategies in this resilience theme underscore the State's commitment to supporting businesses, empowering local communities, and creating an inclusive and sustainable economic landscape that thrives in the face of change. Proposed initiatives aim to enhance economic diversification, promote green job creation, expand the workforce, create new living wage jobs, and support the growth of resilient industries. Investment in renewable energy infrastructure, sustainable agriculture, and fostering innovation and entrepreneurship around climate-resilient products and services aim to build resilience and harness new opportunities for growth and prosperity.

LE_1. Build local capacity to access funding and implement economic development projects that support adaptation and emissions reductions through asset-based community development tailored to specific regional needs.

Local capacity is critical to accessing funding and implementing projects. Building from community assets, such as historic and cultural resources, existing community organizations, and ongoing partnerships can ground the implementation of projects to address community needs and regional concerns. Collaborations between state agencies and local jurisdictions can improve access to funding, support project implementation as well as improve connection to place and resilience.

LE_2. Support and encourage workforce attraction and retention by training business on effective hiring & retention strategies, workforce training, incentivizing high wage jobs, and supporting affordable housing initiatives.

Communities of all sizes in the state are experiencing a crisis in workforce availability and retention. Creating good living-wage jobs with attractive benefits in places with affordable housing will help attract and retain a diverse and vibrant workforce, particularly in essential services fields such as healthcare, emergency response, and education. Workforce education includes K-12 institutes, local colleges, training programs, and informal educational settings that enhance the knowledge and the skills of the workforce.

LE_3. Support New Mexican industries as they adapt and prepare for changing climate conditions.

Key industries in New Mexico's economy such as agriculture, tourism, and energy, face unique threats from climate change and other trends. Supporting adaptive practices in these sectors can help businesses in these industries anticipate the impacts of climate changes and the other trends, reduce greenhouse gas emissions and other environmental impacts, and enhance the sustainability of industry practices.

LE_4. Support transition to the clean energy economy in local communities through workforce development.

Economic transitions to clean energy and sustianble jobs, especially in communities where extractive industries are the primary economic drivers supporting the tax base and funding public education can be challenges. Workforce development provides additional economic opportunity by cross training employees with new skills needed to participate in emerging industries or new opportunities.

LE_5. Support local economic diversification.

Economic diversification will allow local communities to continue to thrive in the event that a single sector or industry is affected by environmental or man-made shocks or stressors. Rural communities that rely heavily on agriculture, tourism, or the energy sector face unique threats from climate change and other trends and economic diversification can limit the impacts of these changing conditions.

LE_6. Create and integrate resilience criteria into state enabled economic development mechanisms to incentivize and prioritize green development.

Incentivizing green development and prioritizing projects that conserve resources can increase the sustainable development statewide. New metrics need to be developed for project evaluation and to better understand the impacts of development on resilience. Economic development mechanisms, such as the Local Economic Development Act, include but are not limited to funding programs, district designations, tax incentives, and municipal ordinances.

LE_6: Initial Priority Actions

1. Create a rubric for resilience criteria that can be applied to proposed economic development projects.

2. Define green development and resilience goals for the state.

3. Identify where resilience criteria can be integrated into development agreements and incentive programs.

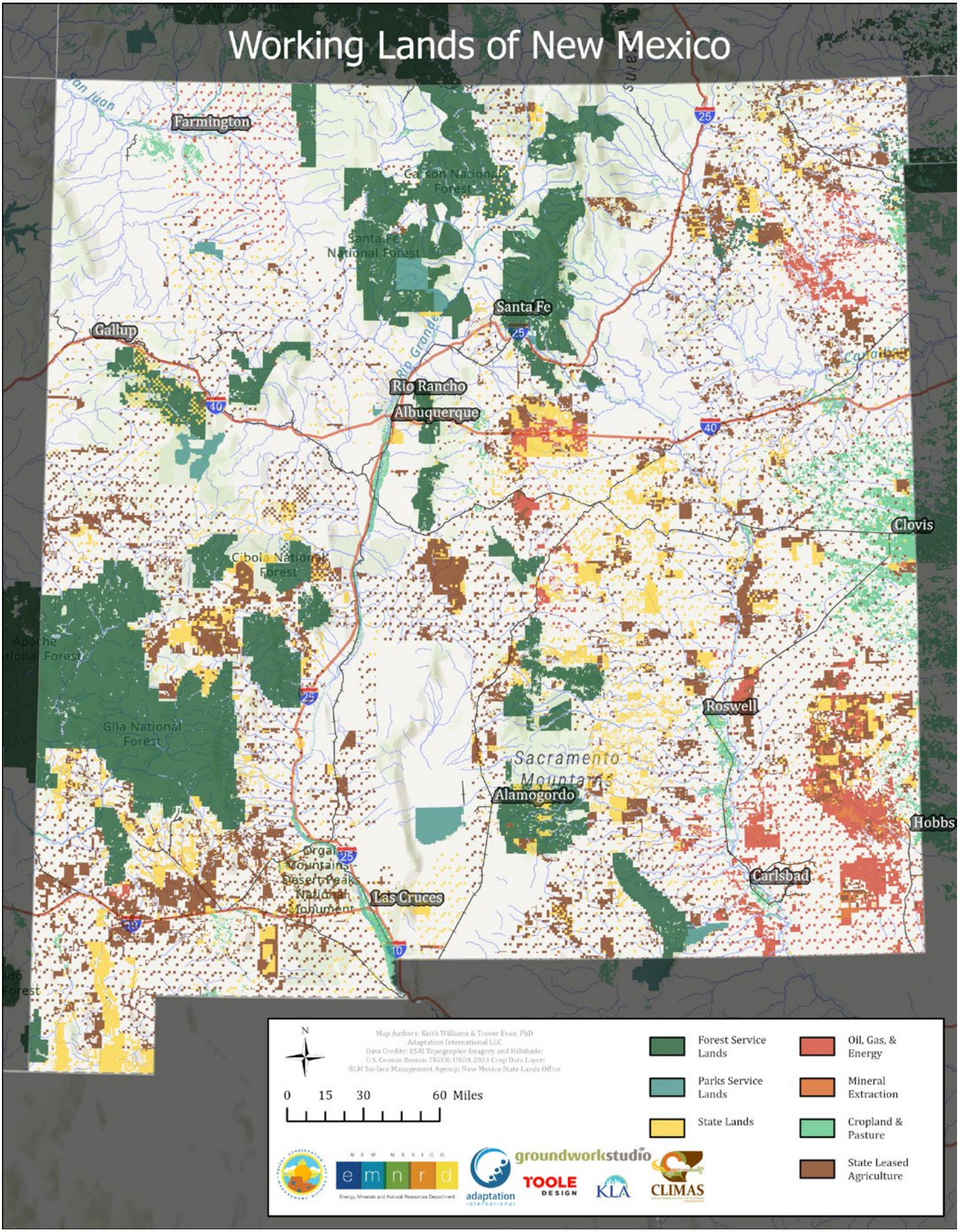
4. Expand the types of industries and incentives used to promote economic development.

State Agency Leads

EDD, NMED

Implementation Timeline

1-4 years


Working Lands of New Mexico
Farmington
Gallup
Santa Fe
Rio Rancho
Albuquerque
Clovis
Roswell
Alamogordo
Hobbs
Carlsbad
Las Cruces
Carson National Forest
Santa Fe National Forest
Cibola National Forest
Gila National Forest
Sacramento Mountains
Organ Mountains-Desert Peak National Monument
Rio Grande
25
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Map Authors: Keith Williams & Trevor Evan, PhD
Adaptation International LLC
Data Credits: ESRI Topographic Imagery and Hillshade;
U.S. Census Bureau TIGER; USDA 2023 Crop Data Layer;
BLM Surface Management Agency; New Mexico State Lands Office
0 15 30 60 Miles
Forest Service Lands
Parks Service Lands
State Lands
Oil, Gas, & Energy
Mineral Extraction
Cropland & Pasture
State Leased Agriculture
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Resilience in Action:

New Mexico Water Data Initiative

In 2019, New Mexico enacted the Water Data Act (NMSA 1978, §72-4B), a new statute directing state agencies and others to share, integrate, and improve the management of water data. Facing extended drought and climate change, New Mexicans are feeling the effects of reduced water supply and occasional water outages. Having ready access to data helps us more quickly address these challenges and evaluate resilient options for managing water. This includes data on water quality, quantity, and uses.

This future-looking, collaborative project, known as the New Mexico Water Data Initiative (WDI), is a multi-year endeavor and is critical to facilitate responsive and responsible water management and water planning by and for the people of New Mexico. WDI has established a water data catalog (catalog.newmexicowaterdata.org) where the public and state agencies can access and share data.

This is only the beginning of making water data more accessible to the people of New Mexico. WDI is also actively developing maps, applications, and other tools to increase the accessibility of water data for New Mexicans in the future. To Learn more at: https://newmexicowaterdata.org/

Participants brainstorming at a 2023 Water Data Initiative Workshop. EMNRD

FROM PLANNING TO ACTION

New Mexico has a long and strong history of resilience. While we have weathered the COVID-19 pandemic and catastrophic wildfires, we face additional changes related to climate change, extreme weather events, and a shifting social, economic, political, and technological landscape. To successfully meet current and future challenges and take advantage of the new opportunities that will present themselves, it is important to anticipate and proactively prepare for changing conditions. Our preparation must address vulnerabilities and reduce risk, especially for overly burdened communities, and take advantage of new opportunities to help create a future that New Mexicans hope to see for their communities.

Implementing this plan will require an all-of-state-government approach, partnerships with diverse sectors and communities across New Mexico, sustained action, adequate resources, and leadership support. It will also require a focused commitment to Equity and effort to ensure that overly burdened communities are not only considered, but involved in the process to build resilience. Over the next year, the State will commit to supporting this process in the following ways:

Form an Interagency Climate Adaptation and Resilience Planning Team - This group consists of state agencies who have participated in the Climate Adaptation and Resilience Planning process. The Interagency Climate Resilience and Adaptation Planning Team will play a central role in resilience planning.

- Help identify next steps in New Mexico's resilience journey.
- Steward the implementation of resilience actions beginning with the initial actions identified in this plan.
- Collaborate and share progress on implementation and updates on resilience efforts in their respective agencies to support group learning as well as interagency connections and collaboration.
- Streamline and coordinate communication with communities.

Building a Culture of Action - Initially, creating the fabric of collaboration and information sharing to enhance resilience will require a core level of support at the state. EMNRD is home to the State's Resilience coordinator and the Climate Policy Bureau and will serve this role. The department will also lead the outreach and engagement process with communities across the state. Initial efforts will include the following.

- Convene state agencies, departments, and working groups to implement the plan.
- Support efforts to operationalize resilience into agency programs.
- Coordination with other state task forces, working groups, and positions.
- Host an annual summit to share plan updates, lessons learned, and brainstorm next steps in New Mexico's resilience journey.
- Share inspiring news and useful information that supports resilience.

In addition to this planning process and the work that we will do together over the next few years, we will need to draw from diverse sources of available information, apply lessons from previous experience, and work together in new ways to develop creative solutions. As we work to create a more resilient New Mexico for all, it is imperative that we address the disproportionate impacts of changing conditions, and create solutions that support equitable outcomes. We will need to braid together investments that reduce the emissions of heat trapping gasses and enhance the resilience of our systems, resources, and communities. We will also need to work together with local governments, Tribes, and across state agencies to realize our potential to effectively support resilience initiatives statewide.

This draft plan is a living document and represents a next step in an all-of-state-government approach to strengthening resilience across New Mexico. In the coming years, we will be working with Tribes, local governments, non-profit and private organizations, educational institutions, and the public to build connections and make informed choices about how to improve and strengthen this plan. We will be collaborating to implement the initial actions identified here and develop new initiatives. None of us can do it alone, but we can do it together.

The impact of climate change on our state will be determined by how we as New Mexicans, local communities, and state agencies decide to invest in reducing risk, prepare for impacts, and build resilience. Where and how we choose to build, what investments we make in our social systems, how we diversify or protect our physical and cultural infrastructure, and how we enhance our capacity to respond to these ever changing conditions will be critical in determining not only what happens during these extreme events, but also how quickly we can recover, bounce forward, and continue to thrive.

Workshop 1, Groundwork Studio

APPENDICES AND REFERENCES

State Agency Acronyms

ALTSD - Aging and Long-Term Services Department
CYFD - Children, Youth, and Families Department
DCA - Department of Cultural Affairs
DDPC - Developmental Disabilities Planning Council
DFA - Department of Finance and Administration
DGF - Department of Game and Fish
DHSEM - Department of Homeland Security and Emergency Management
DMA - Department of Military Affairs
DOH - Department of Health
DoIT - Department of Information Technology
DOT - Department of Transportation
DPS - Department of Public Safety
DVS - Department of Veterans Services
ECECD - Early Childhood Education and Care Department
EDD - Economic Development Department
EMNRD - Energy, Minerals, and Natural Resources Department
GSD - General Services Department
HED - Higher Education Department
HSD - Human Services Department
IAD - Indian Affairs Department
ISC - Interstate Stream Commission
NMCD - New Mexico Corrections Department
NMDA - New Mexico Department of Agriculture
NMDWS - New Mexico Department of Workforce Solutions
NMED - New Mexico Environment Department
NMTD - New Mexico Tourism Department
OAAA - Office of African American Affairs
OBAE - Office of Broadband Access and Expansion
OSE - Office of the State Engineer
OG - Office of the Governor
PED - Public Education Department
RETA - Renewable Energy Transmission Authority
SLO - State Land Office
SPO - State Personnel Office
WCA - Workers Compensation Administration

Glossary of Terms

Adaptation - refers to adjustments to human and natural systems that leverage opportunities and moderate adverse impacts of actual or expected climate (or other) changes.

Adaptive Capacity - the ability of people, institutions, systems, and communities to adjust and respond to impacts and take advantage of opportunities.

Assets - characteristics or resources that make it easier to perform core functions, manage affairs, and improve over time. Assets can be tangible (e.g., physical infrastructure or emergency vehicles) or intangible (e.g., social networks or neighborhood cohesion).

Built environment - man-made structures, features, and facilities viewed collectively as an environment in which people live and work.

Cascading impact - the direct impact of hazard events and/or crises generates a sequence of events resulting in physical, social, or economic disruption in other systems.

Climate adaptation - taking action to prepare for and adjust to both the current and projected impacts of climate change (like extreme heat, wildfire, or flooding) and making the most of any potentially beneficial opportunities associated with climate change.

Climate change - changes in global or regional climate patterns largely attributed to human-caused increased levels of atmospheric greenhouse gasses.

Climate resilience - the capacity of a system to maintain function in the face of stresses imposed by climate change and to adapt the system to be better prepared for future climate impacts.

Community resilience - the ability of communities to function so that the people living and working in them survive and thrive no matter what stresses or shocks they encounter.

Constraints - stressors, limitations, or deficits that make it difficult to perform core functions, manage affairs, and improve over time (e.g., aging infrastructure or outdated design, limited access to data and modeling, few internal opportunities, understaffing, limited administrative support).

Diversity - the range of human differences that shape identity, perspective, and experience such as age, physical ability, gender, beliefs, sexual orientation, and race/ethnicity.

Ecosystem Services - Ecosystem services produce the many life-sustaining benefits humans receive from nature that are important for human health and well-being. These services include, but are not limited to clean air and water, fertile soil, pollination, and flood control.

Emergency preparedness - the steps you take to make sure you are safe before, during, and after an emergency or natural disaster.

Environmental health - the relationships between people and their environment.

Equity - when everyone has meaningful and fair access to opportunities and resources that enable people to thrive, regardless of who they are or where they come from. This requires that factors preventing access to resources and opportunities are acknowledged and addressed,

including implicit biases and systemic barriers that different groups of people face, whether that is in association with social, economic, demographic, or geographic characteristics. Climate equity affirms the fundamental right to political, economic, and cultural self-determination of all people.

Exposure - impact on an individual, institution, system, or community due to stressors such as storms, floods, and other extreme weather and climate events. Exposure can be direct or indirect. Impacts can be negative, or in some cases, positive.

Hazard Mitigation - any sustainable action that reduces or eliminates long-term risk to people and property from future disasters.

Inclusion - the intentional practice of recognizing, appreciating, and incorporating the talents and skills of people from all backgrounds such that processes and environments are designed in a way that maximizes the meaningful participation and contributions of all participants.

Local Capacity - the ability of an actor, organization, or system to perform core functions, manage affairs, and improve itself over time.

Mitigation - actions to reduce the emissions or heat trapping gasses (greenhouse gasses) or enhance absorption of these gasses to avoid the long term and most severe impacts of climate change.

Needs - resources that could make it easier to perform core functions, manage affairs, and improve over time (e.g., material, monetary, administrative, political, or social).

Overly Burdened Communities - a community or population—especially people of color, women, tribal communities, immigrants, youth, low or no-income earners, rural communities, and communities dependent on extractive industries—for which multiple systemic burdens, including environmental and socioeconomic inequities, negatively affect their health, economic prosperity, and environment.

Resilience - the ability to anticipate, prepare for, respond to, and recover from disruptions with minimum damage to social well-being, the economy, and the environment.

Sensitivity - the degree to which people, institutions, systems, and communities can be affected directly or indirectly by extreme weather, climate, and natural hazards.

Shock – acute environmental, social, or economic events that challenge human and environmental systems that communities rely on. Shocks might include things like natural disasters, pandemics, abrupt economic transitions, and cybersecurity attacks.

Social vulnerability - the ways in which people and communities are vulnerable to the effects of hazards and disasters that go beyond physical exposure, including social, economic, health, cultural, and historical factors.

Stressor - chronic conditions that undermine resilience and increase vulnerability such as ongoing food insecurity, high unemployment, eroding infrastructure, limited institutional capacity, and racial discrimination.

Sustainability - managing resources to achieve environmental, social, and economic goals in ways that can be sustained long term.

Traditional Knowledges - the multiple ways of knowing that are prevalent in Tribal and Indigenous communities which encompass the lifeways, beliefs, traditions, practices and how those knowledges are transmitted and shared.

Vulnerability – the relative potential impacts to systems, institutions, communities, or individuals posed by climate change and related hazards. Vulnerability is determined by climate related exposures, sensitivity, and adaptive capacity.

Vulnerability Assessments - assessments that identify potential climate and weather-related vulnerabilities of key components of a system or community, including physical infrastructure, residents, land areas, essential services, transportation, financial capacity, etc.

Workshop 3, Groundwork Studio

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