



***NEW MEXICO CLIMATE ADAPTATION
AND RESILIENCE PLAN***

COMMUNITY COMMENTS SUMMARY VERSION
SUMMER 2024

NEW MEXICO CLIMATE ADAPTATION & RESILIENCE PLAN

COMMUNITY COMMENTS SUMMARY VERSION

PREPARED FOR:

NEW MEXICO ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT

PREPARED BY:

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SUMMER 2024



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
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
NMGFD - New Mexico Game and Fish 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

Recommendations for Further Development of the New Mexico Climate Adaptation & Resilience Plan (CARP)

The following recommendations are based on the input received during the outreach workshops in the early summer of 2024. They are provided for consideration by the Climate Policy Bureau for inclusion in future iterations/drafts of the State Climate Adaptation & Resilience Plan. These recommendations are tailored to help the Plan demonstrate the State's commitment to resilience, better reflect community priorities, enhance transparency and clarity, tailor resilience strategies and actions to New Mexico's diverse localities and population, and foster increased engagement and collaboration on resilience efforts across the State.

1. Demonstrate an Ongoing Commitment to Resilience

- This could take many forms but could include (formally or informally) establishing the Interagency Resilience Working Group and holding quarterly meetings to share information, build interagency connections and collaborations, and support the further development of the plan.
- Explore avenues and formats for annual reporting of progress on resilience. This could include a briefing to the Climate Change Taskforce (when re-established) or the Governor's Office, or a public-facing report of key progress on each resilience theme.

2. Enhance Transparency and Provide Clarity on Plan Development and Use

- Provide a short- to mid-term timeline (e.g. 3-5 years) for CARP's development & implementation with known (and, within reason, aspirational) milestones and deadlines. Ideally, this timeline would be co-developed with the Interagency Resilience Working Group and take into consideration existing already funded projects and programs. To the extent possible, specify the plans and objectives for the next five years related to improving & implementing the CARP.
 - Clarify the leadership and jurisdictional responsibilities for strategy and plan implementation.
 - Be explicit about EMNRD's authority and role in directing agency actions or the limitations of that authority.
 - Where appropriate, acknowledge other agency mandates or directives related to

- Add a section to the report to acknowledge resource and capacity limitations and available funding.
 - Explain the current funding situation for CARP and list any potential federal, state, or private funding opportunities (or anticipated roadblocks) for further development.

3. Reflect Community Priorities

- Explain commonly discussed topics from the regional climate workshops within the theme descriptions and strategies. Consider adding “assets” lists drawn from the community posters and frequently mentioned topics to clarify what is included in each theme.

4. Refine Strategies and Develop Actions

- Enhance the clarity and specificity of strategy wording where possible.
 - Consider adding additional sample actions for some strategies to provide concrete examples of implementation.
 - Consider how to make the Plan as useful as possible for both an internal audience (State Agencies) and external audiences (communities, stakeholders) and what format or materials will be useful for these audiences as a single .pdf report is unlikely to serve the needs of all users. These materials could include fact sheets, spreadsheets of strategies and actions, websites, and more.
- Reiterate the importance of adopting different approaches tailored to the specific needs of various communities when building resilience.
- Where appropriate, amend strategies to highlight how they can be tailored to support local communities in multiple ways. and demonstrate CARP’s flexibility and relevance across New Mexico’s diverse localities.
 - Consider providing real or hypothetical examples of what a resilience strategy or action might look like in practice in two different communities, or if led by two different actors (e.g. state department vs. grassroots organization).
 - Consider incorporating a table, diagram, or series of case studies that outline how different actors can engage in building resilience within a theme (or a specific strategy), highlighting the types of partnerships, resources, and actions specific to

5. Continue to Support Engagement with Tribes, Pueblo, and Community

- Provide an overview of outreach and engagement efforts for the first round of community conversations (regional, Tribal, and Virtual) and the outcomes) of these efforts. This could preface the workshop summaries.
 - Highlight the community groups and representatives that attended the first round of community conversations.
 - Address limitations in reaching certain groups and state intentions for future engagement.

- Consider outlining the plan for sustained and meaningful Tribal engagement going forward, ensuring continuous collaboration and opportunities for input from Tribes and Pueblos communities.
 - This could include the creation of a Tribal Resilience Working Group
 - Include information on how to set up 1:1 meetings, the time window these will be available, and what Tribes can expect from these discussions.
- Consider outlining your plan for increased general education and outreach
 - This could include creating a dedicated section in the plan with specific strategies for ongoing or sustained community engagement.
 - Alternatively, for each theme, proposed specific actions EMNRD (and/or other

6. *Maintain Regular Communication*

- Commit to a consistent schedule for informing stakeholders of relevant CARP-related updates through various channels such as newsletters, open meetings, or “office hours”, maintaining a calendar of events, social media, etc.
- Ensure ongoing direct communication (e.g. phone, email, and virtual or in-person meetings) with Tribes & Pueblos, State Agencies, Local Governments, and Community partners to keep them informed and engaged.

COMMUNITY CONVERSATIONS

In the spring of 2024, the New Mexico Energy, Minerals and Natural Resources Department's Climate Policy Bureau hosted a series of eight community conversations across the state to debut and collect feedback on the initial draft Climate Resilience and Adaptation Plan. These conversations also helped identify additional opportunities to incorporate resilience into the work of state and local government.

There were six (6) regionally-focused in-person workshops in Truth or Consequences, Roswell, Albuquerque, Farmington, Taos and Las Vegas. Additionally, there was one in-person workshop in Santa Fe for staff members from Tribes and Pueblos, and one virtual workshop open to anyone state-wide. Each in-person event was hosted at a local organization or business and lasted about two hours. Spotlight crucial efforts to enhance climate adaptation and resilience in communities.



The goals of the workshops were to:

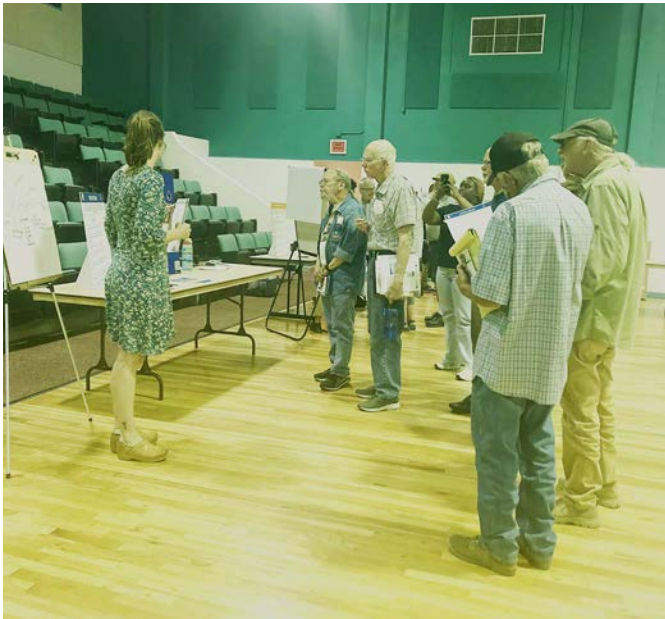
- Hear directly from residents about how to improve resilience in their communities.
- Connect participants to relevant programs and resources.
- Improve the State’s Climate Adaptation and Resilience Plan based on community perspectives.
- Identify recommendations of how to incorporate resilience into the work of state and local government.

Each workshop followed a similar format where CPB gave a short presentation about the State’s resilience planning efforts; a guest speaker gave a presentation on their efforts to build resilience in their community; and participants were given time to visit various breakout stations to discuss climate hazards in their community and CARP’s six resilience themes and associated strategies.

As part of the resilience theme breakout stations, participants were asked to vote for what they saw as the highest priority strategies for implementation in each theme using dot stickers and leave comments on the strategies using post-it notes. Facilitators also took notes of group discussions. A summary of these “dot voting” activities is provided at the end of the appendix. Additionally, the appendix includes a table of the most commonly mentioned topics for each of the resilience themes.

Climate data for regional workshops were provided by Trevor Lee Even, Ph.D., utilizing historical observations from the NOAA NCEI GHCNd version 3 dataset, accessed at: <https://www.ncei.noaa.gov/maps/daily/> and climate change projections were provided by the MACAv2-METDATA CMIP5 downscaled climate projection project for coordinates centered on each regional community, accessed at https://climate.northwestknowledge.net/MACA/data_csv.php.

Truth or Consequences



Community members and staff discussing climate impacts and resilience strategies in Truth or Consequences.

Conversation Workshop Summary

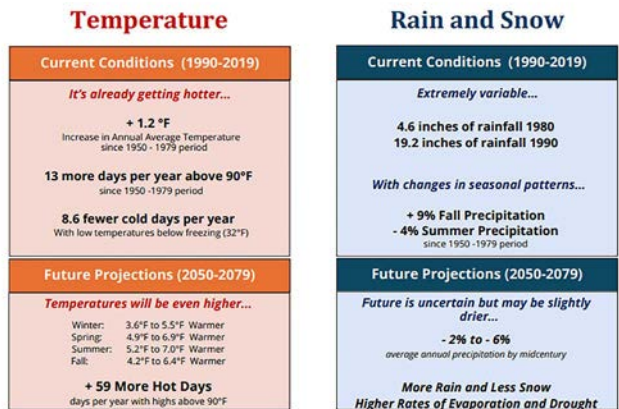
Thirteen community members from Truth or Consequences, Las Cruces, and surrounding communities gathered on May 20, 2024, at Truth or Consequences Civic Center to discuss climate change impacts and resilience in the region. During the evening workshop, participants signed in and perused a series of regionally specific climate posters. There was a formal welcome and introduction, a summary of the State’s Climate Adaptation and Resilience Plan, and a guest speaker highlighting resilience in action for the region. The bulk of the workshop time was structured around breakout sessions where participants could choose their own adventure and spend time providing input on two of the six resilience themes.



Climate Change in Truth or Consequences



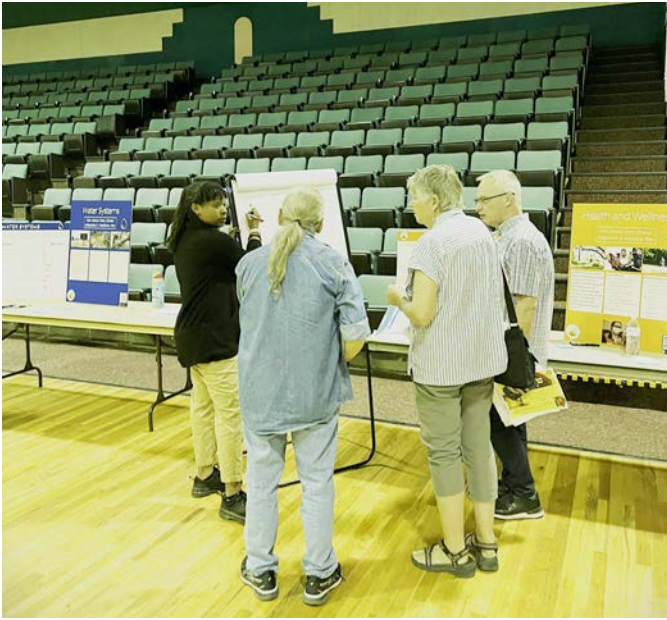
Our communities are already seeing rising temperatures and changing rain and snow patterns.



Climate change projections for temperature and precipitation (rain and snow) for the Truth or Consequences region using an ensemble of climate models. Figure show current conditions between 1990-2019, observed changes (top rows), and projected changes for mid-century between 2050-2079 averages (bottom rows).

Climate Concerns

The figure highlights the climate projections for Truth or Consequences. Temperatures are projected to increase in all scenarios across all time periods with an average of 59 more days a year above 90°F by mid century compared to current conditions. The future is uncertain with highly variable precipitation. Projections show a slight decrease in annual rainfall (-2% to -6%) by the middle of the century. However, with higher temperatures, there will be more evaporation and drought.



Community members and workshop facilitators discussing the Health and Wellness resilience theme and strategies in Truth or Consequences.



Guest Speaker Dan Lorimer gives a presentation on local and regional resilience initiatives and opportunities in Truth or Consequences.

Resilience in Action - Dan Lorimer

Dan Lorimer is a small business owner, advocate, and resident of Sierra County, New Mexico who specializes in irrigation and water conservation, and consistently demonstrates a commitment to environmental stewardship. In his presentation, he discussed the SunZia Renewable Wind Energy Project, highlighting its potential benefits and impacts to the region. He also explored the geothermal energy potential of the area, emphasizing its clean energy and role in enhancing local resilience. Additionally, Dan underscored the unique geology and cultural value of Sierra County.

Input on Resilience Themes

During the breakout session time, participants had the opportunity to discuss resilience themes of interest and provide comments and input on those themes and the associated strategies. Some of that key input is highlighted below.

COMMUNITY AND CULTURE

- Indigenous culture, heritage, and traditions should be celebrated.
- Consider animals and animal welfare in planning for resilience.
- Communities can be leaders but it is difficult to get people to gather post COVID.

HUMAN HEALTH AND WELLNESS

- Situation is dire for low income and rural community members with lack of employment, limited communication, and compounding challenges.
- Need to expand and strengthen education and hire more health professionals.
- Livestock and wild animals contribute to health and wellbeing and need to be explicitly considered in resilience planning efforts.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

- Small scale nature based solutions should be considered for both habitat and water management.
- Explore district heating systems connected to wastewater.
- Consider removing road access to public lands.

ECOSYSTEMS & NATURAL RESOURCES

- Grazing can impact ecosystems and cause a loss of carbon and there aren't enough programs focused on animal welfare.
- Need education on soil loss, water loss, and keeping water on the land by using bioswales and other methods.
- Need to safeguard natural environment from oil and gas development.

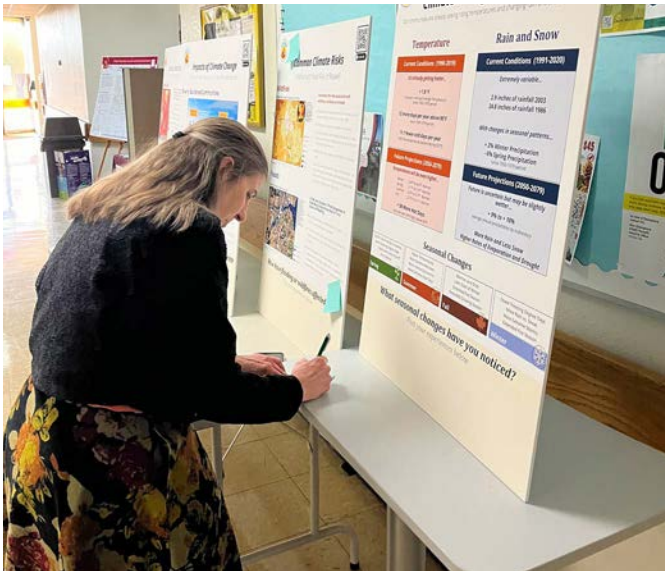
WATER SYSTEMS

- Aging infrastructure requires costly repairs and undue burden on small communities.
- Major forest fires affect both the forest and the water systems through runoff and sedimentation.
- Promote local plants for landscaping as they require less water, compared to non-native plants.

LOCAL ECONOMIES

- Promote "green jobs", broadly including clean energy, gardening, composting, and gray water management.
- Focus on bringing long-lasting jobs to the region.
- Find ways to bring tourism to the region using wildlife.

Roswell



A community member writes down their experience with local climate change impacts at the Climate Hazards breakout station in Roswell.

Conversation Workshop Summary

Six community members from Roswell, Ruidoso, Hondo and Lincoln County gathered on May 21, 2024, At ENMU-Roswell Occupational Technology Center to discuss climate change impacts and resilience in the region. During the evening workshop participants signed in and perused a series of regionally specific climate posters. There was a formal welcome and introduction, a summary of the State’s Climate Adaptation and Resilience Plan, and a guest speaker highlighting resilience in action for the region. The bulk of the workshop time was structured around breakout sessions where participants could choose their own adventure and spend time providing input on two of the six resilience themes.



Climate Change in Roswell

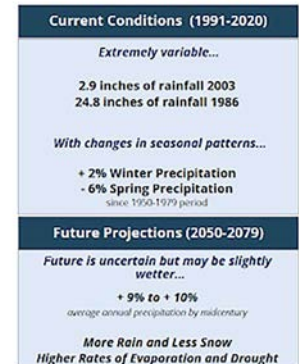


Our communities are already seeing rising temperatures and changing rain and snow patterns.

Temperature



Rain and Snow



Climate change projections for temperature and precipitation (rain and snow) for the Roswell region using an ensemble of climate models. Figure show current conditions between 1990-2019, observed changes (top rows), and projected changes for mid-century between 2050-2079 averages (bottom rows).

Climate Concerns

The figure highlights the climate projections for Roswell. Temperatures are projected to increase in all scenarios across all time periods with an average of 58 more days a year above 90°F by mid century compared to current conditions. The future is uncertain with highly variable precipitation. Projections show a slight increase in annual rainfall (+9 to +10%) by the middle of the century. However, with higher temperatures, there will be more evaporation and drought.



Ruidoso community member and workshop facilitator discussing the Ecosystems and Natural Resources resilience theme and strategies in Roswell.



Guest Speaker Jackie Powell giving a presentation on the wildfire and flood cycles in Rio Ruidoso/Hondo Valley and how to build resilience in the region.

Resilience in Action - Jackie Powell

Jackie Powell, a 5th generation small farmer and water advocate from the Rio Ruidoso/Hondo Valley, talked about the history of environmental disasters in the region. She highlighted the impacts of recent wildfires and the floods that followed them. She discussed the importance of community awareness and collaboration to prepare and respond to wildfire-flood cycles. She shared examples of recovery work taking place in Rio Ruidoso/Hondo Valley, including cleaning up waterways, reservoirs, and acequias impacted by ash and other pollutants.

Input on Resilience Themes

During the breakout session time, participants had the opportunity to discuss resilience themes of interest and provide comments and input on those themes and the associated strategies. Some of that key input is highlighted below.

COMMUNITY AND CULTURE

- Grassroots organizations play a vital role in engaging community members in state efforts.
- It is important to incorporate indigenous knowledge into resilience initiatives.
- “Farmers and Ranchers are the original conservationists, and we can learn a lot from them.”

ECOSYSTEMS AND NATURAL RESOURCES

- The community believes the government values nature over human life.
- Many believe forest thinning is a useful technique Roswell could implement to combat wildfires.
- Animals should also be considered when developing cooling centers to address extreme heat.

HUMAN HEALTH AND WELLNESS

- Existing concerns about water quality and the drinking water of the Roswell community.
- Bridges have collapsed during extreme weather which have killed several people in Roswell.
- Dust storms have also killed people in the region.

WATER SYSTEMS

- Working with communities is important when managing water resources for domestic, food production, and industrial usage.
- Preparing for floods after wildfires is essential, as they are prone to occur.
- The plan talks about agriculture as water users; however, acknowledge that agriculture benefits local economies.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

- Buildings in Wildland-Urban Interface (WUI) areas need better protection from wildfire.
- Cooling pavement techniques can affect urban heat islands.
- Greater guidance in the planning and approval of battery and EV charging stations is needed.

LOCAL ECONOMIES

- A diversified economy can minimize risks caused by extreme weather events.
- Local businesses and citizens are unprepared for severe storms and lack shelter resources.
- There can be great potential in community-based green projects (implementing LEED designs, e.g. school solar panels), renewable energy (wind farms), and rainwater harvesting.

Albuquerque



Community members participating in the regional resilience workshop in Albuquerque.

Conversation Workshop Summary

Forty-two community members from Albuquerque and surrounding communities gathered on May 22, 2024, at the UNM Jackson Student Center to discuss climate change impacts and resilience in the region. During the evening workshop participants signed in and perused a series of regionally specific climate posters. There was a formal welcome and introduction, a summary of the State’s Climate Adaptation and Resilience Plan, and a guest speaker highlighting resilience in action for the region. The bulk of the workshop time was structured around breakout sessions where participants could choose their own adventure and spend time providing input on two of the six resilience themes.



Climate Change in Albuquerque

Our communities are already seeing rising temperatures and changing rain and snow patterns.

Temperature

Current Conditions (1990-2019)	
<i>It's already getting hotter...</i>	
+ 1.5 °F Increase in Annual Average Temperature since 1950-1979 period	
3 less days per year above 90°F since 1950-1979 period	
17.8 fewer cold days per year With low temperatures below freezing (32°F)	
Future Projections (2050-2079)	
<i>Temperatures will be even higher...</i>	
Winter:	3.2°F to 5.3°F Warmer
Spring:	3.7°F to 6.0°F Warmer
Summer:	3.7°F to 6.2°F Warmer
Fall:	3.0°F to 5.4°F Warmer
+ 68 More Hot Days days per year with highs above 90°F	

Rain and Snow

Current Conditions (1990-2019)	
<i>Extremely variable...</i>	
4.1 inches of rainfall 1956 13.1 inches of rainfall 1988	
<i>With changes in seasonal patterns...</i>	
+ 6% Fall Precipitation - 1 % Spring Precipitation since 1950-1979 period	
Future Projections (2050-2079)	
<i>Future is uncertain but may be slightly wetter...</i>	
+ 2% to + 7% average annual precipitation by midcentury	
<i>More Rain and Less Snow Higher Rates of Evaporation and Drought</i>	

Climate change projections for temperature and precipitation (rain and snow) for the Albuquerque region using an ensemble of climate models. Figure show current conditions between 1990-2019, observed changes (top rows), and projected changes for mid-century between 2050-2079 averages (bottom rows).

Climate Concerns

The figure highlights the climate projections for Albuquerque. Temperatures are projected to increase in all scenarios across all time periods with an average of 68 more days a year above 90°F by mid century compared to current conditions. The future is uncertain with highly variable precipitation. Projections show a slight increase in annual rainfall (+2 to +7%) by the middle of the century. However, with higher temperatures, there will be more evaporation and drought.



Community members visit the climate hazard station and refreshment tables before the community conversation in Albuquerque.



Guest Speaker Marcy Litvak gives a presentation on UNM's ARID Institute.

Resilience in Action - Marcy Litvak

Marcy Litvak, Co-Director of The ARID Institute at the University of New Mexico, discussed the institute's focus on enhancing resilience in semi-arid ecosystems through actionable science. She emphasized the importance of drylands, which are critical biodiversity and climate change hotspots, and highlighted ARID's role in fostering innovations that sustain clean water, energy, ecosystems, and community health. The institute builds capacity for transdisciplinary research across four key themes: adaptive infrastructures, sustainable water, community health and vitality, and healthy ecosystems. Litvak highlighted ARID's role as a hub for facilitating connections and partnerships to improve resilience in New Mexico.

Input on Resilience Themes

During the breakout session time, participants had the opportunity to discuss resilience themes of interest and provide comments and input on those themes and the associated strategies. Some of that key input is highlighted below.

COMMUNITY AND CULTURE

- There should be more focus on youth, educational opportunities, and training in the Plan.
- Need resilience centers to address inequities and the health impacts on disadvantaged communities.
- Horses are an important part of New Mexican culture and solutions need to consider both animal welfare and human community needs.

HUMAN HEALTH AND WELLNESS

- Expand and train local health councils by providing funding and technical assistance.
- Expand access to nature, especially shady green spaces for cooling and mental health.
- Children and infants have disproportionate exposure to climate change, engage and educate mom or parent networks to share information and reduce risk.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

- Need a massive investment in electric vehicle charging stations, bus stops, and bicycle storage.
- Look for dual purpose investments such as installing solar panels above parking lots in schools to generate energy and provide shade.
- Consider a significant investment in residential weatherization for low income residents and renters including insulation, doors, and windows.

ECOSYSTEMS & NATURAL RESOURCES

- Wildlife should be explicitly mentioned in the plan.
- Consideration of free roaming horses, their effects on ecosystems, and how they can be humanely managed.
- The discussion of local community involvement can be more specific.

WATER SYSTEMS

- More attention needs to be paid to stormwater and flooding considering both human and natural solutions (such as beaver dams).
- Adaptive management will lead to more effective water management.
- All state agencies need to be included in the plan development.

LOCAL ECONOMIES

- Investment in community transitions away from fossil fuel industry jobs by focusing on job training and guidance.
- Build a multifaceted and diverse economy around renewable energy, regenerative agriculture, health care, and the university.
- Equip local organizations to apply and use grants.

Farmington



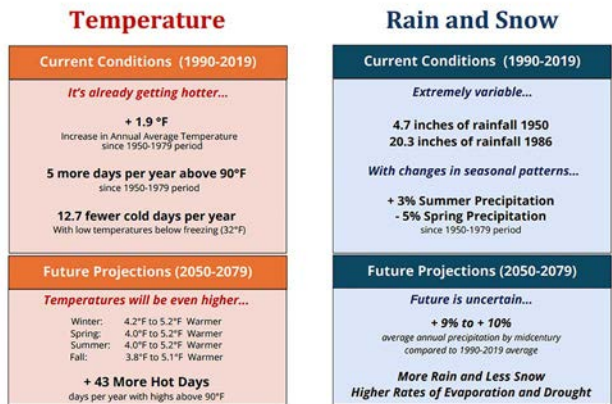
Robert Gomez, EMNRD's Sustainability and Resilience Officer, gives a presentation about the State's resilience planning efforts to community members in Farmington.



Climate Change in Farmington



Our communities are already seeing rising temperatures and changing rain and snow patterns.



Climate change projections for temperature and precipitation (rain and snow) for the Farmington region using an ensemble of climate models. Figure show current conditions between 1990-2019, observed changes (top rows), and projected changes for mid-century between 2050-2079 averages (bottom rows).

Conversation Workshop Summary

Eight community members from Farmington and surrounding communities gathered on June 3, 2024, at the Riverside Nature Center to discuss climate change impacts and resilience in the region. During the evening workshop participants signed in and perused a series of regionally specific climate posters. There was a formal welcome and introduction, and a summary of the State's Climate Adaptation and Resilience Plan. The bulk of the workshop time was structured around breakout sessions where participants could choose their own adventure and spend time providing input on two of the six resilience themes.

Climate Concerns

The figure highlights the climate projections for Farmington. Temperatures are projected to increase in all scenarios across all time periods with an average of 43 more days a year above 90°F by mid century compared to current conditions. The future is uncertain with highly variable precipitation. Projections show a slight increase in annual rainfall (+9 to +10%) by the middle of the century. However, with higher temperatures, there will be more evaporation and drought.



Workshop facilitator writing down community member's feedback on the Water Systems resilience theme and strategies in Farmington.



Community members and State staff discussing climate impacts, resilience themes, and relevant regional strategies during the open house portion of the workshop.

Input on Resilience Themes

During the breakout session time, participants had the opportunity to discuss resilience themes of interest and provide comments and input on those themes and the associated strategies. Some of that key input is highlighted below.

COMMUNITY AND CULTURE

- Participants highlighted the importance of building state capacity and working closely with local communities to build community resilience.

HUMAN HEALTH AND WELLNESS

- Support and build on existing local efforts for capacity building, community development, and environmental/economic justice.
- Hire more staff. Focus more on doing as opposed to planning.
- Develop a clear understanding of the disproportionate impacts of climate change.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

- Installing more trees along roads and paths can encourage walking and biking.
- Focus on multimodal transportation investments, not just roads.

ECOSYSTEMS & NATURAL RESOURCES

- Water resources should be used to support agriculture and economic development, not the fossil fuel industry.
- Provide clarity on how the Plan will be used or support local decision making.

WATER SYSTEMS

- Emphasize green stormwater infrastructure such as bioswales and trees.
- Consider installing solar on top of irrigation canals to reduce evaporation and provide power to pumps and monitoring stations.
- Encouraging regional approaches to water management is important.

LOCAL ECONOMIES

- Look for ways to expand workforce development specifically to replace high paying fossil fuel jobs.
- There is a lack of educational opportunities and affordable housing especially for native people.
- Increase the amount of State funding for clean and green businesses.

Taos



Community members and state staff discussing climate change impacts, resilience themes, and strategies during the workshop.

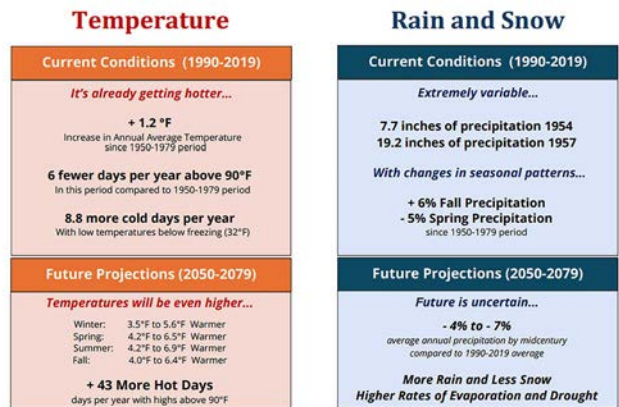
Conversation Workshop Summary

Thirty-two community members from Taos and surrounding communities gathered on June 4th, 2024, at UNM Taos Baatan Hall to discuss climate change impacts and resilience in the region. During the evening workshop, participants signed in and perused a series of regionally specific climate posters. There was a formal welcome and introduction, a summary of the State's Climate Adaptation and Resilience Plan, and a guest speaker highlighting resilience in action for the region. The bulk of the workshop time was structured around breakout sessions where participants could choose their own adventure and spend time providing input on two of the six resilience themes.



Climate Change in Taos

Our communities are already seeing rising temperatures and changing rain and snow patterns.



Climate change projections for temperature and precipitation (rain and snow) for the Taos region using an ensemble of climate models. Figure show current conditions between 1990-2019, observed changes (top rows), and projected changes for mid-century between 2050-2079 averages (bottom rows).

Climate Concerns

The figure highlights the climate projections for Taos. Temperatures are projected to increase in all scenarios across all time periods with an average of 43 more days a year above 90°F by mid century compared to current conditions. The future is uncertain with highly variable precipitation. Projections show a slight decrease in annual rainfall (-4% to -7%) by the middle of the century. With higher temperatures, there will be more evaporation and drought.



A community member at the Ecosystems and Natural Resources breakout station votes for resilience strategies they would like the State to prioritize in Taos.



Community members discussing climate impacts and resilience options during the open house portion of the workshop.

Resilience in Action - Luis Reyes

Luis Reyes, Chief Executive Officer, Kit Carson Electric Cooperative, Inc. (KCEC) and Chairman and Director of the National Rural Telecommunications Cooperative, spoke to workshop attendees about resource diversification, increasing battery storage for solar energy, exploring long-term energy solutions, and maintaining corporate accountability. Luis expounded on Kit Carson Cooperative’s efforts to integrate smart-grid technology, “fiber-to-home” internet, and disaster-resilient electricity into the services they proudly provide Northern New Mexico communities.

Input on Resilience Themes

During the breakout session time, participants had the opportunity to discuss resilience themes of interest and provide comments and input on those themes and the associated strategies. Some of that key input is highlighted below.

COMMUNITY AND CULTURE

- Traditional knowledge, cultural preservation amidst climate migration (in & out), and cultural consideration for changing practices for sustainability should all be considered.
- Engagement with Tribes should be first on the list not last.
- Allow communities to tailor solutions and determine how best to integrate youth, schools, and traditional knowledge.

HUMAN HEALTH AND WELLNESS

- Heat and chronic climate stress have serious impacts on mental health. Medications and medical devices are also affected by extreme heat and climate related events like power outages.
- More acknowledgement and state-level support for the unhoused, elderly, and those addicted to drugs is needed.
- The drug epidemic and housing crisis are coinciding with the climate crisis. More funding, staff capacity, and data is needed at the health department.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

- Waste management (septic, sewer infrastructure, diversion, compost, waste reduction) should receive more attention.
- Multimodal pathways, complete streets, and trails could be highlighted more in the Plan.
- Building and planning codes and standards could be strengthened to be more like “LEED”.

ECOSYSTEMS & NATURAL RESOURCES

- Build wetland and watershed restoration and protection into the strategies.
- For grant funding and implementation it is important to understand the unique nature of each locality and provide flexibility.
- The importance of trees should be highlighted and there should be more intentional planting.

WATER SYSTEMS

- Identify and address concerns about “strategic water” (produced water) including the science, the cost, safety, and clean-up.
- Regional water and wastewater utility and management is important for keeping water in Taos.
- Enhance watershed protection through wetland restoration which can also reduce flood risk.

LOCAL ECONOMIES

- Modernize and diversify local business and their buildings, to increase tourist appeal include longer hours and walkable/bikeable business access.
- Retrain workforce to provide access to better paying local jobs in renewable energy.
- Create cultural centers where more locals are involved in showcasing local arts, food, and culture.

Las Vegas



Community members and staff discussing climate impacts and resilience options in Las Vegas.

Conversation Workshop Summary

Seventeen community members from Las Vegas and surrounding areas gathered on June 5th, 2024, at Stella's Cafe to discuss climate change impacts and resilience in the region. During the evening workshop, participants signed in and perused a series of regionally specific climate posters. There was a formal welcome and introduction, a summary of the State's Climate Adaptation and Resilience Plan, and a guest speaker highlighting resilience in action for the region. The bulk of the workshop time was structured around breakout sessions where participants could choose their own adventure and spend time providing input on two of the six resilience themes.



Climate Change in Las Vegas



Our communities are already seeing rising temperatures and changing rain and snow patterns.

Temperature

Current Conditions (1990-2019)	
<i>It's already getting hotter...</i>	
+ 1.5 °F Increase in Annual Average Temperature since 1950-1979 period	
7 more days per year above 90°F since 1950-1979 period	
6.7 fewer cold days per year With low temperatures below freezing (32°F)	
Future Projections (2050-2079)	
<i>Temperatures will be even higher...</i>	
Winter:	3.2°F to 5.2°F Warmer
Spring:	4.2°F to 6.6°F Warmer
Summer:	4.1°F to 6.6°F Warmer
Fall:	3.7°F to 6.1°F Warmer
+ 57 More Hot Days days per year with highs above 90°F	

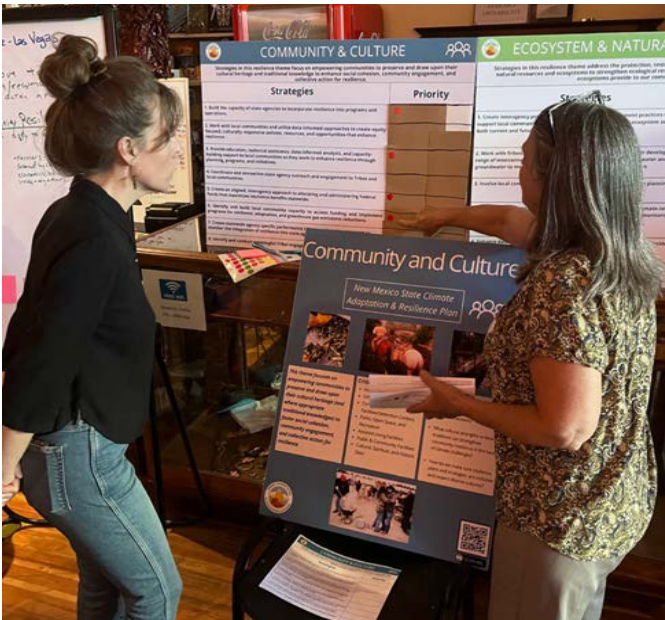
Rain and Snow

Current Conditions (1990-2019)	
<i>Extremely variable...</i>	
5.4 inches of rainfall 1956 27.8 inches of rainfall 1985	
<i>With changes in seasonal patterns...</i>	
+ 6% Fall Precipitation - 2% Spring Precipitation since 1950-1979 period	
Future Projections (2050-2079)	
<i>Future is uncertain...</i>	
+ 2.5% to + 8% average annual precipitation by midcentury compared to 1990-2019 average	
More Rain and Less Snow Higher Rates of Evaporation and Drought	

Climate change projections for temperature and precipitation (rain and snow) for the Las Vegas region using an ensemble of climate models. Figure show current conditions between 1990-2019, observed changes (top rows), and projected changes for mid-century between 2050-2079 averages (bottom rows).

Climate Concerns in Las Vegas

The figure highlights the climate projections for Las Vegas. Temperatures are projected to increase in all scenarios across all time periods with an average of 57 more days a year above 90°F by mid century compared to current conditions. The future is uncertain with highly variable precipitation. Projections show a slight increase in annual rainfall (+2.5% to +8%) by the middle of the century. However, with higher temperatures, there will be more evaporation and drought.



A workshop facilitator discusses a community member's feedback on the Community and Culture resilience theme and strategies in Las Vegas.



Paula Garcia discussing the history and importance of acequias in Northern New Mexico.

Resilience in Action - Paula Garcia

Paula Garcia, Executive Director of the New Mexico Acequia Association, provided an overview of the role of acequias in northern New Mexico and the agriculture of the region. She shared how extreme weather is affecting acequia operations from drought to extreme rainfall and debris. Relevant to resilience, she highlighted how acequias are both infrastructure and people, as it is a community working together to keep acequias operating.

Input on Resilience Themes

During the breakout session time, participants had the opportunity to discuss resilience themes of interest and provide comments and input on those themes and the associated strategies. Some of that key input is highlighted below.

COMMUNITY AND CULTURE

- Always reach out to communities and have them help lead actions in their region.
- Consider a “Community Resilience Fund” to allow for up-front funding of local resilience initiatives designed by and for the community.
- Look for ways to simplify funding so that it goes directly to communities and community members in need.

HUMAN HEALTH AND WELLNESS

- Health care access in northern New Mexico can be a challenge.
- Tight-knit, primarily Hispanic communities, can sometimes keep people out and require local health or climate ambassadors.
- Keeping water on the landscape and supporting trees and food forests can have health benefits.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

- Creating an integrated multi-modal transportation system with trails, electrical vehicle charging stations, and all electric buses would support the community.
- Workforce development is important in the region.
- Focus on education and making it easier for grant writers to identify and access funding.

ECOSYSTEMS & NATURAL RESOURCES

- “One size fits all” programs, plans or grants, will not be effective in meeting the needs of individual communities across the state.
- Consider how best to integrate programs to achieve co-benefits with education, youth involvement, pollinators, and workforce development.
- Provide clarity on how the State’s Climate Adaptation and Resilience Plan will be implemented.

WATER SYSTEMS

- Las Vegas needs better access to clean drinking water.
- Water conservation information should be provided at the local level.
- It is important to share water shortfalls equally and consider rebranding drought as aridification.

LOCAL ECONOMIES

- The region needs more job training and workforce development around clean energy and electrical vehicle jobs.
- Additional funding for local businesses would help them compete with national companies.
- Incentivize climate smart building codes and invest in energy efficient affordable housing.

Tribes & Pueblos



Invocation and welcome from Brophy Toledo (Pueblo of Jemez).



Guest Speaker Raymond Martinez gives a presentation about adaptation planning efforts at the San Ildefonso Pueblo.

Conversation Workshop Summary

On June 6, 2024, representatives from the State of New Mexico and New Mexico Tribes and Pueblos gathered at Mabry Hall in Santa Fe for a workshop on climate adaptation and resilience. The workshop opened with a welcome from Brophy Toledo (Pueblo of Jemez). EMNRD Cabinet Secretary Designate Melanie A. Kenderdine formally introduced the event, emphasizing the State's interest in sustained collaboration with Tribes and Pueblos in the ongoing development and deployment of the CARP. The agenda included participant introductions, an overview of the CARP by Tess Ngochi, the CBP's Resilience Coordinator, a series of small group discussions, and a presentation by 1st Lieutenant Governor of the Pueblo of San Ildefonso, Raymond Martinez.

Resilience in Action - Raymond Martinez

Raymond Martinez shared stories about the on-going adaptation planning work that is happening at the San Ildefonso Pueblo and what it took to create their first adaptation plan in 2020. The Pueblo made the effort to create space for all Tribal members to participate in the planning process including working with interpreters to have discussions with elders. They also separated elders from the youth discussions to encourage dialogue and allow them to speak more openly. The Pueblo's efforts are centered around their vision for their community.



Breakout session discussion focusing on climate challenges and opportunities in Tribes and Pueblos across the state.

Input on Resilience Themes

During the meeting's initial round of discussions, participants shared the work their communities were engaged in on climate-related issues, discussed obstacles involved in this work, and explored how the state and other tribes could collectively move these efforts forward.

State support for existing and emerging Tribal and Pueblo climate resilience efforts

New Mexico Tribes and Pueblos are already working on adaptation plans or vulnerability assessments, collaborations with federal agencies or others in climate-responsive land management projects, and climate-focused youth education and engagement. Participants discussed the means by which the state can support these existing efforts and facilitate the development or expansion of new efforts.

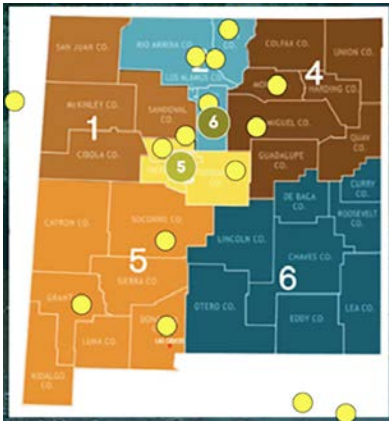
- Provide funding for Tribal and Pueblo adaptation efforts - Many existing funding sources are not responsive to Tribal needs or have onerous application requirements that prohibit access to funding.
- Help direct federal funding to New Mexico Tribes and Pueblos, leverage federal relationships to communicate Tribal needs and limitations - Participants identified that many federal funding sources are not responsive to the needs and limitations of Indigenous governments.
- Support the ability of Tribes and Pueblo communities to meet their own needs - Tribal representatives emphasized the importance of sharing adaptation resources created by the State for their own use and the importance of building resilience from the ground up.

Find opportunities to deepen collaborations, co-manage mutually important resources, and collectively transition from planning to action

To better support tribal-specific needs, participants emphasized the value of co-producing management planning resources and scientific research as a basis for future collaboration. They also highlighted the co-management of off-reservation resources important to Tribes and Pueblos is essential for effective and equitable climate adaptation.

- Utilize pilot projects and focus on scalability - Pilot projects as essential tools for furthering both state and tribally-led adaptation efforts in Tribal communities. The scalability of pilots should be considered, ensuring that they can be distributed and implemented by various communities with different capacities.
- Provide educational resources on adaptation topics - Provide resources Tribal staff can use in their educational initiatives. These resources might include information on climate impacts, community-based strategies, no and low-cost solutions, and other pertinent materials.
- Share success stories - Supporting ways for tribes to share these solutions and opportunities to test new ideas to develop more success stories will be key components to advancing overall adaptation efforts.
- No and low-cost solutions - A catalog of no-cost and low-cost adaptation actions which can be undertaken by Tribal community members (and others) could spur additional action.
- Create a state plan for long-term engagement and collaboration on adaptation planning - Ensure input and collaboration by creating opportunities for direct feedback on adaptation and planning initiatives. Elicit participation through individual contacts and participation in professional networks of tribal adaptation planners, such as the Intertribal Resource Advisory Council, NM Tribal Resilience Action Network, etc.

Virtual



Left Image: Example input received during the virtual community workshop including where people who attended the workshop live. Right Image: How each person viewed the importance of resilience investments in their region.

Conversation Workshop Summary

Forty-one community members from across the state gathered virtually on June 11, 2024, to discuss climate change impacts and resilience. During the evening workshop, participants were guided through a series of presentations and interactive exercises including a real time virtual survey, a presentation on the development of the Draft Climate Adaptation and Resilience Plan, and two breakout sessions that allowed for dialogue on individual resilience themes.

Climate Concerns

This workshop varied from the other regional workshop in that it did not include regionally specific climate projections. Instead, the participants used an open ended survey question to identify the most pressing challenges facing their communities or their regions. This included direct climate impacts such as extreme heat, drought, and wildfires, as well as social challenges and opportunities such as changing people’s minds, climate gentrification, and building on the ongoing work of local non-profit organizations.

What are the most pressing climate resilience issues facing your community?

Breakdown

26 of 30 responded • 40 responses

Water Wildfire Food	Water, heat, and soil	The increasing aridity
Extreme heat and air quality from forest fires	Heat, fire, lack of precipitation	Changing peoples mindset
Wildfire and water security	Air quality and cooling centers	Dwindling water and reliance on fossil fuels for funding education in our state
Wildfire and water security	Extreme heat	Water! Wildfire
Fire, water, excessive heat,	Housing, disasters, future	Water!!! Wiksfires
Smart use of renewable energy	Soil moisture loss	The electric grid
Water!!! Extreme heat, drought	Water security, agriculture's future direction	Flooding, insurance, substandard housing
Health, economy, animal welfare	Building on amazing efforts by NGOs	Safe battery storage
Extreme heat and drought	Energy	Climate gentrification and gentrification in general negatively impacts dwindling and fragile natural resources.
Pollution from outside sources	Water usage, shade	Heat stress for people, plants and creatures
Loss of resources.	Lack of / change of water availability	Adaptation to changes in water availability and balance
Water storage and collection	Challenges water	People being aware / willing to change
Threats and Impacts to Tribal and Pueblo culture	Heat wave and power failure. Inability to pay for utilities (40% of households in NM as per Census). Heat sink cities. Lack of trees. Etc.	What can I do to do my part to safe guard our future
Attitude.		

Summary of key climate related issues facing community members who participated in the virtual workshop.

Defining Resilience



Participants identified what the word “resilience” means for their communities. This included being adaptable, flexible, and creative when responding to changing conditions. They also identified the importance of being able to bounce back, maintain culture and heritage, and the importance of collaboration. All of these ideas align with how resilience is discussed in the Draft Plan.

Screen shot of resilience word cloud created by participants in the virtual workshops. Size of words or phrases reflect frequency of use in answers.

Input on Resilience Themes

During the breakout session time, participants had the opportunity to discuss resilience themes of interest and provide comments and input on those themes and the associated strategies. Some of that key input is highlighted below.

COMMUNITY AND CULTURE

- Provide more support for community leadership and community buy-in for projects and action.
- Effective action will require enhancing coordination, collaboration, and capacity at the state level.
- Expanding weatherization programs for low-income families, especially in mobile homes or substandard housing can be effective in reducing energy costs and decreasing emissions.

HUMAN HEALTH AND WELLNESS

- Low income, marginalized communities bear the brunt of climate change especially when it comes to health.
- Communication with clear messages to help make the connection between climate and health, consider the role of university extension and community climate/health ambassadors.
- More attention should be paid to Indigenous people and food systems.

INFRASTRUCTURE & THE BUILT ENVIRONMENT

- Invest in the resilience of the energy grid and consider both renewable and decentralized energy generation.
- Update building codes to enhance energy efficiency, passive design standards, and reduce wildfire risks.
- Enhance collaboration and communication between state agencies and with communities.

ECOSYSTEMS & NATURAL RESOURCES

- More attention should be paid to groundwater resources.
- Encourage and make it easier for state and federal agencies to work together on large scale resilience projects.
- Enhance education on how healthy ecosystems are connected to water resources, health and wellness, and preservation of culture and indigenous lifeways.

WATER SYSTEMS

- Consider the effects of pollution on water systems and water quality.
- Acknowledging and centering the wisdom of Indigenous communities for water management.
- Provide water focused education, training, and technical support to communities, particularly in small and rural communities.

LOCAL ECONOMIES

- Training young people for climate related careers or trades can support local workforce development.
- Energy auditor training should be expanded to build trained workforce and expand capacity.
- Use training and mentorship programs to encourage careers in agriculture and ranching.

Overview of Community Conversation Topics

Approximately 700 comments were collected from those who attended the eight community conversation workshops hosted in May & June 2024. Comments were related to climate change hazards and impacts, the six resilience themes, and the draft Plan's development and implementation generally. There were many shared priorities and concerns among workshop participants and regions. The following lists of topics directly reflect community input from the eight community conversations collectively. Topics are not listed in any specific order.

The EMNRD Climate Policy Bureau will consider and explore these topics as they work with State Agencies to review and update the draft Climate Adaptation and Resilience Plan. This attention will help ensure the future updated draft plan reflects the voices and needs of New Mexicans across different regions.

Community & Culture

- *Climate Change Awareness and Education*
- *Accessible Meeting Locations*
- *State Department Capacity Building*
- *Acequia Usage and Water Rights*
- *Wildlife and Companion Animals*
- *Metrics and Data Collection*
- *Green Spaces and Urbanization*
- *Intergenerational and Youth Education*
- *Regenerative Agriculture and Ranching*
- *Cultural Diversity and Inclusion*
- *Traditional Knowledge Integration*
- *Community Gathering Spaces*
- *Climate Migrants and Cultural Preservation*
- *Community-Driven Action and Support*
- *Resilience Funds and Local Empowerment*
- *Equitable Access to Programs*
- *Cultural Importance of Horses*
- *Community Tailoring of Programs*

Human Health & Wellness

- *Public Access to Nature*
- *Climate Impacts on Mental Health*
- *Food Security and Local Agriculture*
- *Elder Care*
- *Families with missing generations (Grandparents raising Grandchildren)*
- *Community Education and Capacity Building*
- *Data Collection, Access and Underrepresented Data*
- *Public Alerts & Communication*
- *Emergency Preparedness*
- *Integrating Cultural and Traditional Activities*
- *Children and Infant Exposure to Heat & Pollutants*
- *Worker Safety*
- *Water Quality and Waste Management*
- *Air Quality Monitoring Network*
- *Dust Storm Impacts on Health & Safety*
- *Homeless and Unhoused Populations*
- *Cooling Centers*
- *Heat Impacts on Medication*
- *Domestic Violence*
- *Substance Abuse & Drug Use Populations*
- *Gut Microbiome Health*
- *Home Dwellings Impacts on Health & Wellness*
- *Infrastructure and Built Environment Impacts on Health & Wellness*
- *Health Care Facility Emissions & Sustainability*
- *Access to Health Care Providers*
- *Department of Health Staff and Funding*
- *Climate Health Resilience Plan and Community Fund (HB104)*
- *Outdoor Worker Heat Safety Standards*

Infrastructure

- *Dual-Purpose Energy Infrastructure*
- *Residential Energy Efficiency*
- *Trees and Green Infrastructure*
- *Improvement of Public Spaces and Transportation (Walkability, Accessibility, Shade & Cooling)*
- *Water System Upgrades*
- *Geothermal Energy*
- *Smart City Infrastructure and Distributed Energy Generation*
- *Waste Management and Reduction*
- *Enhanced Building and Planning Codes*
- *Habitat Restoration and Environmental Protection*
- *Equity and Community Engagement*
- *Broadband and Economic Development*
- *Forest Management and Wildfire Resilience*
- *Water Reuse and Conservation*

Ecosystems & Natural Resources

- Wildlife Management
- Education
- Humane Management of Free-roaming Horses
- Trail Maintenance and Employment
- Forest Fire Management
- Incorporating Local Knowledge into Fire Management
- Nutrient Pollution
- Wetland Restoration
- Watershed Protection
- Enhancing Water Quality
- Conservation of Endangered Species
- Light Pollution Reduction
- Use of terms drought and increasing aridity.

Water Systems

- Stormwater Management Solutions
- Nature based Solutions - Integration of Beavers in Water Management
- Adaptive Management
- Interstate Collaboration
- Groundwater Management
- Ban on For-Profit Water Bottling
- Investment in Water-Conserving Appliances
- Regulation of Water Use for Outside Industries
- Home-Level Water Efficiency Measures
- Investment in Water Infrastructure
- Support for Rural Communities
- Protection Against Fracking-Related Risks
- Public Communication on Water Systems Supply and Management
- Wetland and Watershed Protection
- Equal sharing of Water Shortages
- Alternative Water Sources
- Swales and Green Stormwater Infrastructure
- Solar Panels on Irrigation Channels
- Inclusion of the Army Corps of Engineers
- Private Wells
- Public Access to Water

Local Economies

- High-Paying Job Replacement for Fossil Fuel Industry Jobs
- Workforce Development
- Investment in Clean/Green Businesses
- Support for Renewable Energy Infrastructure
- Affordable and Energy-Efficient Housing
- Support for Local Businesses
- Broadband and Connectivity
- Green Education and Training
- Community and Cultural Integration
- Sustainable Tourism and Quality of Life
- Local Economy and Workforce Sustainability

General

- **Funding** for proposed strategies & existing programs (Funding avenues/ opportunities are unclear)
- **Data Collection and Access** (more is needed to address data gaps in current focus areas. new programs are needed to collect data needs to be collected in new focus areas)
- **Timelines** for strategies and overall plan implementation are needed
- **Recognizing Variation** in needs and communities across the State
- **Allowing for Flexibility** (in implementing plan)
- **Building Capacity** (Concerns there isn't enough currently across the state)
 - **State Agency Capacity** (i.e. Hiring Dept. of Health or Climate Policy Bureau Staff)
 - **Local Capacity** (i.e. to apply for grants)
 - **Community Capacity** (i.e. Grassroots & NGO leaders)
- **Respecting Tribal Sovereignty**
- **Improved Tribal Engagement** (Continued engagement, better timing and reach)
- **Forming Partnerships & Leveraging Existing Programs** (State, NGO & Private Sector) for implementation
- **Strategies are too long / have too many parts / too broad**
- **Lack of Attention on Animals** throughout plan, especially in Health and Wellness, Ecosystems and Natural Resources, and Community and Culture.
- **Lack of Attention on Farmers, Ranchers, Agricultural Communities and Food Systems** throughout plan
- **Educating the General Public** about climate impacts & how to protect themselves



COMMUNITY & 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.



	Truth or Consequences	Roswell	Albuquerque	Farmington	Taos	Las Vegas	Virtual	Total
1. Build the capacity of state agencies to incorporate resilience into programs and operations.		●	●● ●	●● ●	●	●	●● ●	12
2. Work with local communities and utilize data-informed approaches to create equity focused, culturally responsive policies, resources, and opportunities which enhance resilience.	● ●	●	●●●●● ●●●●●	●● ●	●● ●●		●	20
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.	●		●●● ●●●	● ●	●● ●●	●	● ●	18
4. Coordinate and streamline state agency outreach and engagement to Tribes and local communities.	● ●	●	● ●	●	●		●● ●	10
5. Create an aligned, interagency approach to allocating and administering Federal funds which maximize resilience benefits statewide.		●	●● ●●	●	●● ●●		●● ●●	14
6. Identify and build local community capacity to access funding and implement programs for resilience, adaptation, and greenhouse gas emissions reduction.	●	●	●●●●● ●●●●	●	●● ●● ●● ●	●	● ●	25
7. Create statewide agency specific performance criteria and review processes to monitor the integration of resilience into state agency programs and operations.	●	●	● ●	● ●		●		8
8. Identify and conduct meaningful Tribal engagement around resilience initiatives.		●	●●● ●●	●	●		● ●	10



ECOSYSTEM & 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.



	Truth or Consequences	Roswell	Albuquerque	Farmington	Taos	Las Vegas	Virtual	Total
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.	●● ●●	●	●●●●● ●●●●	●● ●●	●● ●●	● ●	●● ●	27
2. Work with local communities and utilize data. 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.		●	●●●● ●●●●	●● ●	●● ●● ●● ●●	●	●● ●	24
3. Involve local communities and Tribes in state-wide natural resources planning.		● ●	●● ●	●	●● ●●	● ●	●● ●	15
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 antipated instability.	●● ●●	●● ●	●●●●● ●●●●●	●●● ●●	●● ●● ●● ●	● ●	●● ●	36
5. Enhance data-driven monitoring, early warning, and dynamic multi-stakeholder management of ecosystems.	● ●	●	● ●	●	● ●	● ●	●● ●	13



HEALTH & WELLNESS

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



	Truth or Consequences	Roswell	Albuquerque	Farmington	Taos	Las Vegas	Virtual	Total
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.	●● ●	● ●	●●●●●● ●●●●●● ●●●●●●	●●●●● ●●●●	●● ●● ●● ●● ●● ●	●● ●	●● ●	44
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.	● ●	● ●	●●●●●● ●●●●●●	● ●	●● ●● ●●	●	● ●	19
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.	● ●	●● ●	●●●●●● ●●●●●●	●●● ●●	●● ●● ●●	●	● ●	30
4. Enhance communication with community based organizations across the state to build trust in State agencies.	●● ●	●	● ●		●● ●●	●● ●●	●●● ●●	19
5. Identify and support community ambassadors in every county to advocate for local health concerns.	● ●		●●● ●●●	●	● ●	●	●● ●●	16



INFRASTRUCTURE

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.



	Truth or Consequences	Roswell	Albuquerque	Farmington	Taos	Las Vegas	Virtual	Total
1. Support land use and transportation planned decisions that promote mixed-use developments in places with low vulnerability to natural hazards and connected by multimodal transportation corridors.	● ●		●●●●● ●●●●●	●● ●	●● ●● ●		● ●	21
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.	● ●	●	● ●			●		6
3. Develop infrastructure that enables redundant access to services such as food, healthcare, education, and jobs before, during, and after extreme weather events.	●● ●	●	●● ●●		● ●		●	11
4. Improve or enhance the permitting of infrastructure projects with established resilience and greenhouse gas emissions reduction benefits.		●	●●● ●●●	● ●	●● ●● ●●	●	●● ●●	20
5. Review, revise, and enhance building design standards in wildfire hazard zones to improve resilience.		●				●● ●	●● ●	7
6. Support community-level energy efficiency projects, electrical generation, and storage capacity.	●● ●	● ●	●●●● ●●●●	● ●	●● ●● ●● ●	● ●	●● ●●	28
7. Invest in broadband infrastructure to bolster E-Governance and access to economic, educational, telehealth, and other resources.			●	●	● ●	●	●	6
8. Create waste management systems which support a circular lifecycle approach to addressing waste.	●	● ●	●●●●● ●●●●●		●● ●●	●		17



LOCAL ECONOMIES

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.



	Truth or Consequences	Roswell	Albuquerque	Farmington	Taos	Las Vegas	Virtual	Total
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.		● ●	●●●●●●●● ●●●●●●●●	● ●		●	●	26
2. Support and encourage workforce attraction and retention by training businesses on effective hiring and retention strategies, workforce training, incentivizing high wage jobs, and supporting affordable housing initiatives.	●		●●●●●● ●●●●●●	●●● ●●	●● ●● ●	●● ●	● ●	26
3. Support New Mexican industries as they adapt and prepare for changing climate conditions.			● ●	●	●	●		5
4. Support transition to the clean energy economy in local communities through workforce development.	●	●● ●	●●●●● ●●●●	● ●	●● ●● ●● ●● ●	●● ●	●● ●●	27
5. Support local economic diversification.		●	●● ●●	●● ●●	●● ●●	●● ●●	●	18
6. Create and integrate resilience criteria into state enabled economic development mechanisms to incentivize and prioritize green development.	● ●	●● ●	●●●●●● ●●●●●●		●● ●●	●		20



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.



	Truth or Consequences	Roswell	Albuquerque	Farmington	Taos	Las Vegas	Virtual	Total
1. Encourage regional approaches to water supply, management, and distribution.	●	● ●	●●● ●●●	●● ●●	●● ●	● ●	●●● ●●●	25
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.	●● ●	●	●● ●	●● ●	●●● ●●●	●	●● ●	20
3. Pursue strategies to limit evaporation in surface water storage facilities.	● ●	● ●	●●● ●●				●● ●	12
4. Develop a statewide policy on regional stormwater management to support collection, infiltration, and aquifer recharge.	●● ●	● ●	●●●● ●●●		●● ●● ●●		●● ●●	24
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.	●● ●	● ●	●●●● ●●●	●	● ●	● ●	● ●	19
6. Create resilient water utility systems through long-term resource planning, efficiency improvements, conservation efforts, water reuse, and flexible operations.	●● ●	●	●●● ●●●	● ●	●● ●● ●●	●● ●	●● ●● ●● ●●	31
7. Collaborate with communities to enhance acequia functions during extreme weather events and projected changes in water supply.	●	●	●●● ●●		●● ●● ●●	●	●● ●	17

Citations

1. Gonzalez, P. et al., 2018. pp. 1101–1184.
2. New Mexico Interagency Climate Change Task Force. 2020
3. FEMA. (n.d.). Hermit's Peak/calf canyon claims office
4. New Mexico Forest and Watershed Restoration Initiative. 2022
5. FEMA. 2023. Calf Canyon Claims Office.
6. FEMA. (n.d.) Hermit's peak calf canyon wildfire recovery progress.
7. National Centers for Environmental Information. 2023
8. Union of Concerned Scientists. 2016
9. New Mexico Climate Change Task Force Climate Equity Guiding Principles
10. Drehobl, A., et al., 2020
11. Ross, L. et al., 2018
12. Winner, B. et al., 2018
13. Ebi, K.L. et al., 2018
14. New Mexico Environmental Public Health Tracking. 2023
15. Centers for Disease Control and Prevention. 2023
16. IPCC. 2019
17. Congressional Research Service. 2021
18. Frankson, R., et al., 2022.
19. New Mexico Office of the State Engineer. 2018
20. Cayan, D. R., et al., 2010
21. New Mexico Bureau of Geology and Mineral Resources. 2022
22. Frisvold, G., et al., 2013
23. Williams, A. P., et al., 2010
24. Breshears, D. D., et al., 2005
25. New Mexico Interagency Climate Change Task Force. 2021
26. Al-Kaisi, M., et al., 2002
27. Li, J., et al., 2018
28. New Mexico Interagency Climate Change Task Force. 2021
29. Bell, J. E., et al., 2023
30. Barreau, T., et al., 2017
31. Centers for Disease Control and Prevention. 2020
32. Joint Economic Commission. 2023
33. Center for Disease Control and Prevention. (n.d.) Extreme Heat Can Impact Our Health in

Many Ways.

34. MIT. (n.d.). Extreme heat
35. The 2050s are projected to have an average of 36.6 days over 100°F per year, compared to the 1976-2005 average of 9.8 days per year. <https://livingatlas.arcgis.com/assessment-tool/explore/details>
36. New Mexico Environmental Public Health Tracking. 2023. Query results for New Mexico Resident Heat Deaths
37. Woods, B., et al., 2020
38. USGCRP. 2016.
39. USGCRP. 2016.
40. New Mexico Interagency Climate Change Task Force. 2019
41. Climate Central. 2023
42. Resnick A., et al., 2013
43. New Mexico Energy, Minerals and Natural Resources Department, Forestry Division. 2020
44. Harvard T.H. Chan School of Public Health. 2022
45. U.S. EPA. (n.d.). Health effects attributed to wildfire smoke
46. Risk Factor. State of New Mexico Flood Risk Summary. 2023
47. New Mexico Interagency Climate Change Task Force. 2020
48. New Mexico Interagency Climate Change Task Force. 2021
49. Gamble, J.L., et al., 2016
50. National Flood Insurance Program. 2021
51. Ohi, C. A., & Tapsell, S., 2000
52. New Mexico Equity Working Group. 2022. Climate Equity Guiding Principles
53. ARUP & the Rockefeller Foundation, 20
54. The Guidelines for Considering Traditional Knowledges in Climate Change Initiatives - discusses the importance of using Knowledges in plural. Stating that “Tribes and indigenous peoples use “knowledges” to emphasize that there are diverse forms of traditional knowledge and knowledge systems that must be recognized as unique to each tribe and knowledge holder.” <https://climatetkw.wordpress.com/guidelines/>
55. It is important to note that given their sovereign status, Tribes should not be considered local government equivalents, and, Tribal engagement is different from engagement typically associated with state and local government interactions. It is also important to note that Tribal members are citizens of the United States, State of New Mexico, and their respective Tribe’s government. When developing state programs and other initiatives to serve Tribal members living on and off Tribal lands, it is important to appropriately engage relevant Tribal governments, at the earliest opportunity. governments, at the earliest opportunity.

References

- Al-Kaisi, M., Hanna, M., and Tidman, M. (2002). Soil Erosion and Water Quality. Iowa State University. Integrated Crop Management Program. <https://crops.extension.iastate.edu/encyclopedia/soil-erosion-and-water-quality> Accessed October 25, 2023
- ARUP & the Rockefeller Foundation. (2013) City Resilience Index. Understanding and Measuring City Resilience. <https://www.arup.com/perspectives/publications/research/section/city-resilience-index#>
- Barreau, T., Conway, D., Haught, K., Jackson, R., Kreutzer, R., Lockman, A., Minnick, S., Roisman, R., Rozell, D., Smorodinsky, S., Tafoya, D., & Wilken, J. A. (2017). Physical, mental, and financial impacts from drought in two California counties, 2015. *American Journal of Public Health*, 107(5), 783–790. <https://doi.org/10.2105/ajph.2017.303695>
- Bell, J. E., Lookadoo, R. E., Hansen, K., Sheffield, A., Woolszyn, M., Reeves, S., & Parker, B. (2023). Drought and Public Health: A Roadmap for Advancing Engagement and Preparedness. National Integrated Drought Information System. <https://www.drought.gov/sites/default/files/2023-06/NIDIS-Drought-Public-Health-Strategy-May2023.pdf>
- Breshears, D. D., N. S. Cobb, P. M. Rich, K. P. Price, C. D. Allen, R. G. Balice, W. H. Romme, J. H. Kastens, M. L. Floyd, J. Belnap, J. J. Anderson, O. B. Myers, and C. W. Meyer. (2005). Regional vegetation die-off in response to global-change-type drought. *Proceedings of the National Academy of Sciences*, 102, 15144-15148, doi:10.1073/pnas.0505734102 <https://www.pnas.org/doi/full/10.1073/pnas.0505734102>
- Cayan, D. R., T. Das, D. W. Pierce, T. P. Barnett, M. Tyree, and A. Gershunov. (2010). Future dryness in the southwest US and the hydrology of the early 21st century drought. *Proceedings of the National Academy of Sciences*, 107, 21271-21276, doi:10.1073/pnas.0912391107. <https://www.pnas.org/doi/full/10.1073/pnas.0912391107>
- Centers for Disease Control and Prevention. (2023). CDC/ATSDR social vulnerability index (SVI). Centers for Disease Control and Prevention. July 12. <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>
- Center for Disease Control and Prevention. (n.d.). Extreme Heat Can Impact Our Health in Many Ways. American Public Health Association and Center for Disease Control and Prevention. https://www.cdc.gov/climateandhealth/pubs/extreme-heat-final_508.pdf?mf_ct_campaign=msn-feed
- Centers for Disease Control and Prevention. (2020). Health implications of drought. Centers for Disease Control and Prevention. January 16. <https://www.cdc.gov/nceh/drought/implications.htm>
- Climate Central. (2023). Wildfire Weather: Analyzing the 50-year shift across America. https://assets.ctfassets.net/cxgxcg8r5d/1RwINCKT1zYQFz5NtKW9ue/9a843df6ca96446b1f507a1acabfe0bc/FINAL-Fire_Weather_2023_EN_.pdf

Congressional Research Service. (2021). Climate Change: Defining Adaptation and Resilience, with Implications for Policy. In Focus. May 11 <https://crsreports.congress.gov/product/pdf/IF/IF11827>

Drehobl, A., Ross, L., & Ayala, R. (2020). How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burden across the United States. American Council for an Energy-Efficient Economy. <https://www.energy.gov/sites/default/files/2021-12/ACEEE%2C%20Household%20Energy%20Burdens.pdf>

Ebi, K.L., J.M. Balbus, G. Luber, A. Bole, A. Crimmins, G. Glass, S. Saha, M.M. Shimamoto, J. Trtanj, and J.L. White-Newsome, 2018: Human Health Figure 14.2. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 539–571. doi: 10.7930/NCA4.2018.CH14. <https://nca2018.globalchange.gov/chapter/14/>

FEMA. (n.d.). Hermit's Peak/calf canyon claims office. Hermit's Peak/Calf Canyon Claims Office. <https://www.fema.gov/disaster/current/hermits-peak>

FEMA. 2023. Hermit's Peak / Calf Canyon Claims Office FAQs. FEMA Current Disasters. June, 2023. <https://www.fema.gov/disaster/current/hermits-peak/frequently-asked-questions>

FEMA. (n.d.). Hermit's peak calf canyon wildfire recovery progress. <https://www.fema.gov/press-release/20231002/hermits-peak-calf-canyon-wildfire-recovery-progress#:~:text=As%20of%20September%2029%2C%202023,the%20US%20Small%20Business%20Administration%20>. Retrieved October 23, 2023

Frankson, R., K.E. Kunkel, L.E. Stevens, and D.R. Easterling, 2022: New Mexico State Climate Summary 2022. NOAA Technical Report NESDIS 150-NM. NOAA/NESDIS, Silver Spring, MD, 5 pp. <https://statesummaries.ncics.org/chapter/nm/>

Frisvold, G., L. E. Jackson, J. G. Pritchett, and J. Ritten. (2013). Ch. 11: Agriculture and ranching. Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment, G. Garfin, Jardine, A., Merideth, R., Black, M., and LeRoy, S., Eds., Island Press, 218-239. <https://nca2014.globalchange.gov/highlights/regions/southwest>

Gamble, J.L., J. Balbus, M. Berger, K. Bouye, V. Campbell, K. Chief, K. Conlon, A. Crimmins, B. Flanagan, C. Gonzalez-Maddux, E. Hallisey, S. Hutchins, L. Jantarasami, S. Khoury, M. Kiefer, J. Kolling, K. Lynn, A. Manangan, M. McDonald, R. Morello-Frosch, M.H. Redsteer, P. Sheffield, K. Thigpen Tart, J. Watson, K.P. Whyte, and A.F. Wolkin. (2016) Ch. 9: Populations of Concern. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. U.S. Global Change Research Program, Washington, DC, 247–286. <https://health2016.globalchange.gov/populations-concern>

Gonzalez, P., G.M. Garfin, D.D. Breshears, K.M. Brooks, H.E. Brown, E.H. Elias, A. Gunasekara, N. Huntly, J.K. Maldonado, N.J. Mantua, H.G. Margolis, S. McAfee, B.R. Middleton, and B.H. Udall, 2018: Southwest. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 1101–1184. doi: 10.7930/NCA4.2018.CH25 <https://nca2018.globalchange.gov/chapter/25/>

Harvard T.H. Chan School of Public Health. (2022). Wildfires and health. C-CHANGE Harvard T.H. Chan School of Public Health. October 13. <https://www.hsph.harvard.edu/c-change/subtopics/wildfires-and-health>

IPCC, 2019: Annex I: Glossary [Weyer, N.M. (ed.)]. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. In Press. <https://www.ipcc.ch/report/srocc>

Joint Economic Commission. (2023). The Mounting Costs of Extreme Heat. US Senate. August 10. <https://www.jec.senate.gov/public/index.cfm/democrats/2023/8/the-mounting-costs-of-extreme-heat>

Li, J., Kandakji, T., Lee, J. A., Tatarko, J., Blackwell III, J., Gill, T. E., & Collins, J. D. (2018). Blowing dust and highway safety in the southwestern United States: Characteristics of dust emission “hotspots” and management implications. *Science of the total environment*, 621, 1023-1032. doi.org/10.1016/j.scitotenv.2017.10.124 <https://www.sciencedirect.com/science/article/abs/pii/S0048969717328334?via%3Dihub>

MIT. (n.d.). Extreme heat. MIT Climate Portal. <https://climate.mit.edu/explainers/extreme-heat>

National Centers for Environmental Information. 2023. Billion-Dollar Weather and Climate Disasters. NOAA. <https://www.ncei.noaa.gov/access/billions/state-summary/NM>

National Flood Insurance Program. (2021). Why do I need flood insurance?. Department of Homeland Security. FEMA. National Flood Insurance Program. July 2021 https://agents.floodsmart.gov/sites/default/files/FEMA_Why-Do-I-Need-Flood-Insurance_Brochure_2021.pdf

New Mexico Bureau of Geology and Mineral Resources. (2022). Climate change in New Mexico over the next 50 years: Impacts on water resources: New Mexico Bureau of Geology and Mineral Resources, Bulletin 164. <https://geoinfo.nmt.edu/publications/monographs/bulletins/164/>

New Mexico Energy, Minerals and Natural Resources Department, Forestry Division. (2020). 2020 New Mexico Forest Action Plan: A Collaborative Approach to Landscape Resilience. Santa Fe, NM. https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/NMFAP_2020_v1-1_2021_03_12b_web.pdf

New Mexico Environmental Public Health Tracking. (2023). Heat Related Illness. NM Tracking. April 2023. <https://nmtracking.doh.nm.gov/health/climate/HeatIllness.html>

New Mexico Environmental Public Health Tracking. 2023. Query Results for - New Mexico Resident Heat Deaths. Department of Health surveillance data. <https://nmtracking.doh.nm.gov/dataportal/> Accessed on October 25, 2023

New Mexico Equity Working Group. 2022. Convened by the New Mexico Climate Change Taskforce to create Equity Principles. Principles developed and forthcoming.

New Mexico Forest and Watershed Restoration Initiative. (2022). Hermit’s Peak and Calf Canyon Fire. The largest wildfire in New Mexico’s recorded history and its lasting impacts. August. <https://storymaps.arcgis.com/stories/d48e2171175f4aa4b5613c2d11875653?fbclid=IwAR1fOTkk7LQobFYtXWfvWs6X1Rkp-Uj62qbZb-PnUoz73ClnV2hWUXnKh8A>

New Mexico Interagency Climate Change Task Force. (2019). New Mexico Climate Strategy Initial Recommendations and Status Updates. https://www.climateaction.nm.gov/wp-content/uploads/sites/39/2023/07/NMClimateChange_2019.pdf

New Mexico Interagency Climate Change Task Force. (2020). New Mexico Climate Strategy. Progress and Recommendations. https://www.climateaction.nm.gov/wp-content/uploads/sites/39/2023/07/NMClimateChangeReport_2020.pdf

New Mexico Interagency Climate Change Task Force. (2021). Progress and Recommendations. https://www.climateaction.nm.gov/wp-content/uploads/sites/39/2023/07/NMClimateChange_2021_final.pdf

New Mexico Office of the State Engineer. (2018). New Mexico Drought Plan 2018. New Mexico Drought Plan. https://api.realfile.rtsclients.com/PublicFiles/5f809dddfc9864dad89f9d03375144a14/e4330c9e-dc1b-4177-9f86-2d5135ec050f/NMDP_2018_01092019_Final.pdf

Ohl, C. A., & Tapsell, S. (2000). Flooding and human health. *BMJ (Clinical research ed.)*, 321(7270), 1167–1168. <https://www.bmj.com/content/321/7270/1167>

Resnick A., B. Woods, H. Krapfl, B. Toth. (2013). Health Outcomes Associated with Smoke Exposure in Albuquerque, New Mexico during the 2011 Wallow Fire. *New Mexico Epidemiology*, (6). <https://nmtracking.doh.nm.gov/contentfile/pdf/environment/air/fire/ER%20Smoke%20and%20Health.pdf>

Risk Factor. (n.d.). New Mexico Flood Factor® Report. Risk Factor. https://riskfactor.com/state/new-mexico/35_fsid/flood Accessed October 25, 2023.

Ross, L., Drehobl, A., & Stickles, B. (2018). The High Cost of Energy in Rural America: Household Energy Burdens and Opportunities for Energy Efficiency. American Council for an Energy-Efficient Economy. <https://www.aceee.org/sites/default/files/publications/researchreports/u1806.pdf>

Union of Concerned Scientists. 2016. Confronting Climate Change in New Mexico: Action Needed Today to Prepare the State for a Hotter, Drier Future. Fact Sheet. April. <https://www.ucsusa.org/sites/default/files/attach/2016/04/Climate-Change-New-Mexico-fact-sheet.pdf>

U.S. EPA. (n.d.). Health effects attributed to wildfire smoke. Wildfire Smoke and Your Patients' Health. <https://www.epa.gov/wildfire-smoke-course/health-effects-attributed-wildfire-smoke>

USGCRP, 2016: The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska, Eds. U.S. Global Change Research Program, Washington, DC, 312 pp. <http://dx.doi.org/10.7930/J0R49NQX> <https://health2016.globalchange.gov/>

Williams, A. P., C. D. Allen, C. I. Millar, T. W. Swetnam, J. Michaelsen, C. J. Still, and S. W. Leavitt. (2010). Forest responses to increasing aridity and warmth in the southwestern United States. *Proceedings of the National Academy of Sciences*, 107, 21289-21294, doi:10.1073/pnas.0914211107. <https://www.pnas.org/doi/10.1073/pnas.0914211107>

Winner, B., MacDonald, S., Smith, L., & Juillerat, J. (2018). Bridging the Rural Efficiency Gap: Expanding access to energy efficiency upgrades in remote and high energy cost communities. Island Institute. <https://www.energy.gov/scep/slsc/articles/bridging-rural-efficiency-gap-expanding-access-energy-efficiency-updates-remote>

Woods, B., Fristachi, T., Moraga-McHaley, S., and Kelley, G. (2020). Climate Change and Heat-Related Morbidity in New Mexico in 2030. New Mexico Epidemiology, (4). <https://nmtracking.doh.nm.gov/contentfile/pdf/health/climate/heat/ERClimateChangeTo2030.pdf>

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