

# The Road Towards New Mexico's Groundwater Security



**NEW MEXICO 360  
GROUNDWATER REPORT**

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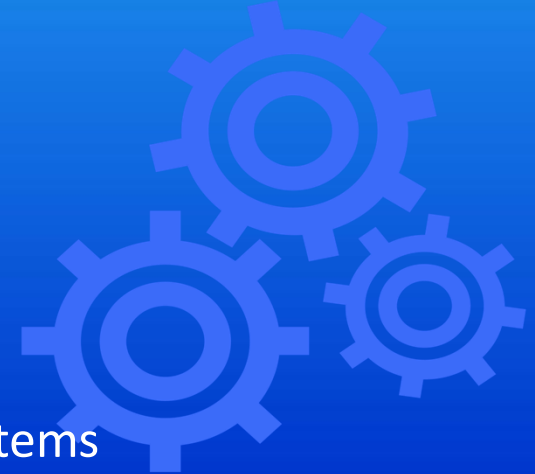
# EDF's Climate Resilient Water System Objectives

**Managing groundwater sustainably is one of the most impactful things we can do today in the face of climate change**

*To build long-term water resilience and environmental and economic security for people, farms, and ecosystems.*

Our work focuses on:

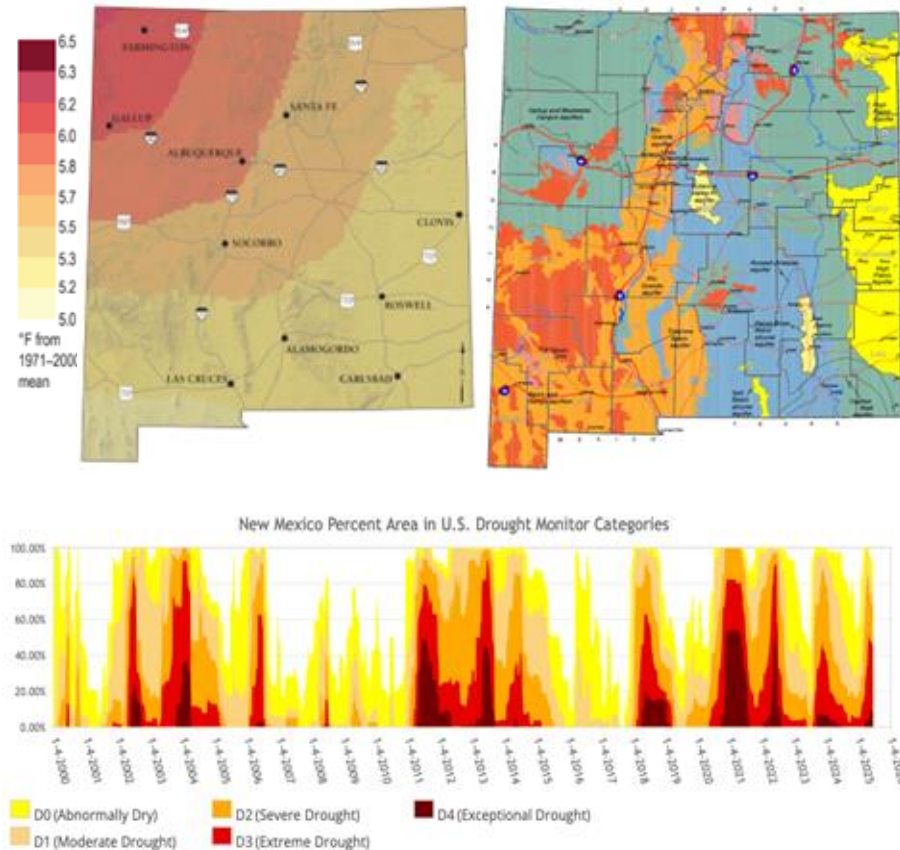
- Improving groundwater management
- Enhancing livelihoods and food security
- Restoring and protecting critical habitats and ecosystems



# The Importance of Groundwater for New Mexico

## Climate change in New Mexico over the next 50 years:

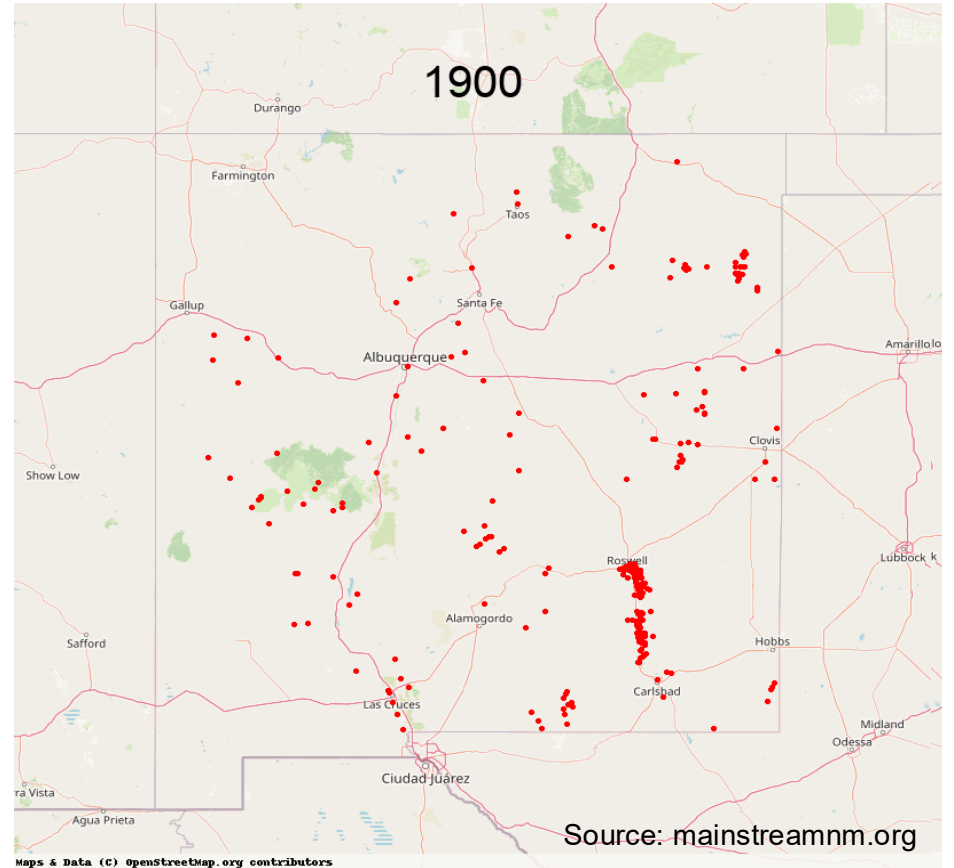
- Increasing temperatures
- Increasing aridification
- Increasing water demands
- Increasing need for groundwater management as surface waters diminish.



# NM's Ongoing & Future Challenges

In addition to Climate Change impacts:

- Multi-decadal scale drought,
- Water Quality: Arsenic, Uranium, localized run-off & PFAS, etc.
- New Large Water Demands



# New Mexico Groundwater Alliance

*Subset of experts from the Governor's Water Policy Task Force*

## New Mexico Groundwater Alliance Members

The New Mexico Groundwater Alliance is made up of community leaders and policy experts from New Mexico's water community and advised by representatives from the state's water agencies.



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Superintendent, Pecos Valley  
Artesian Conservancy District



**Dr. Ladona Clayton**

Executive Director, Ogallala Land &  
Water Conservancy



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**Katie Zemlick**

Chief, Hydrology Bureau, Office of  
the State Engineer

# Building Groundwater Solutions for New Mexico

## New Mexico 360 Groundwater Report (2026)

- Co-authored by the NM Groundwater Alliance Members
- Released January 2026
- Report provide details on NM's groundwater & governance:
  - New Mexico's groundwater use
  - Current aquifer conditions (where known)
  - Data gaps
  - Recommendations

# NEW MEXICO 360 GROUNDWATER REPORT

January 2026

Co-Authored by New Mexico Groundwater Alliance Members:

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 Thornburg Foundation

This report was made possible by the generous support of the Thornburg Foundation.



# Functional Groundwater Data

- **Aquifer Characterization** – Aquifer extents (quantity) and boundary conditions, hydraulic properties, recharge, discharge, chemistry (water quality), etc.

*~Most of the state lacks this science and data, with a few exceptions (Pecos Valley, Lower Rio Grande, High Plains).*

- **Aquifer monitoring** – Groundwater levels and water quality observed regularly over long periods of time through this well network.

*~Most of the state lacks monitoring wells that have consistent long periods of record.*

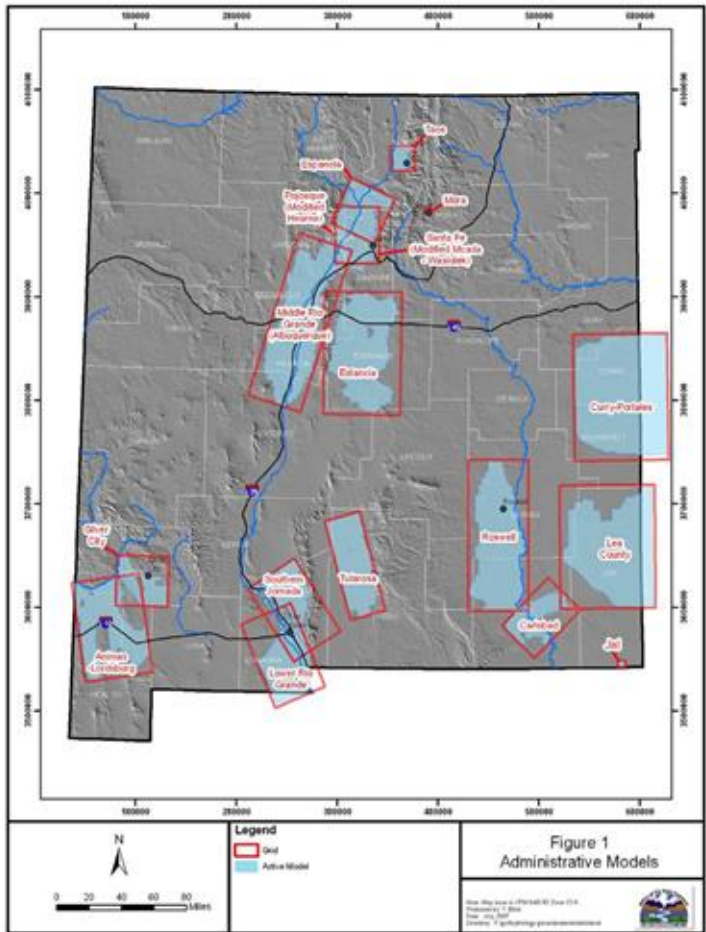
- **Groundwater Use Metering** – Well pumping records/meter readings.

*~Only 45% of groundwater diversions are metered*

*~Only 35% of agricultural irrigation use are metered.*

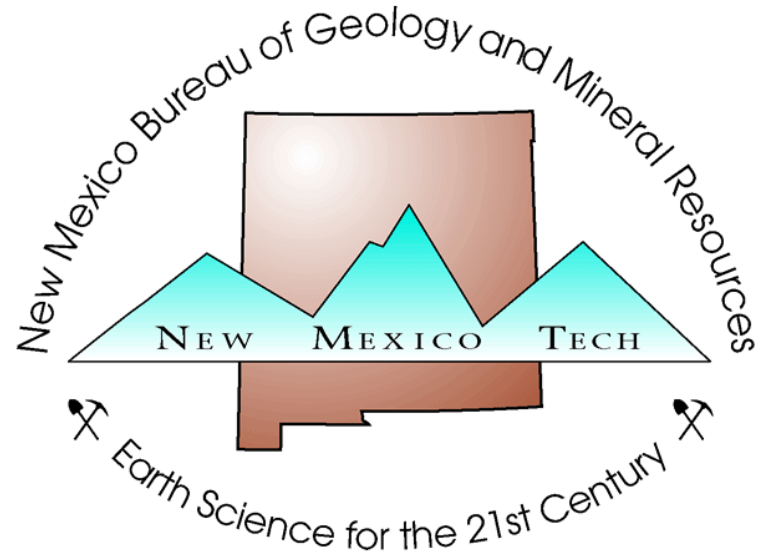
- **Groundwater Modeling** – Computer models representing aquifer dynamics responses to changing recharge and groundwater use.

*~About 20 numerical administrative models (map), variable accuracy and forecasting ability due to foundational, monitoring, and need for metering data.*



# NM's Groundwater Data Needs

- **Need for groundwater characterization/mapping studies**
- **Expand monitoring wells network**
- *State legislators just approved funding the NMBGMR \$11.53 million to continue these essential studies. Thank you!!*



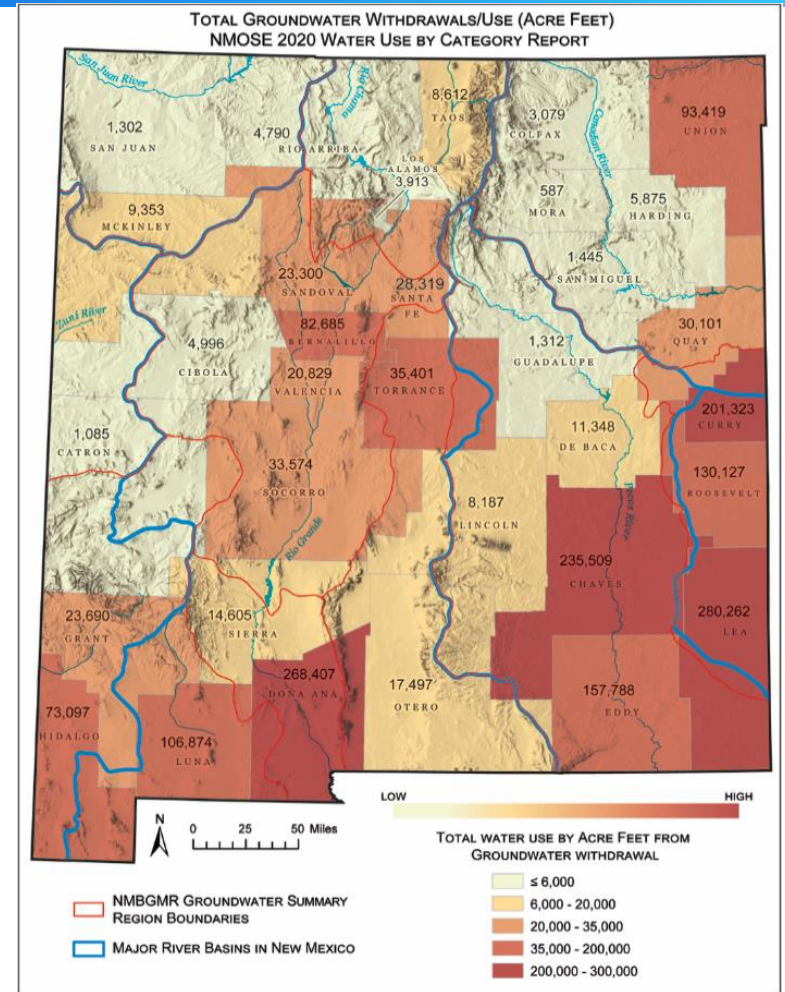
# NM's Groundwater Data Needs

- Tribal Water Settlements
  - Lack of adjudication of water rights
  - Updated water demand management accounting (AWRM)
- \*\* Rapid-decline areas need basin specific GW Management for proactive GW Management to sustain aquifer longevity.*



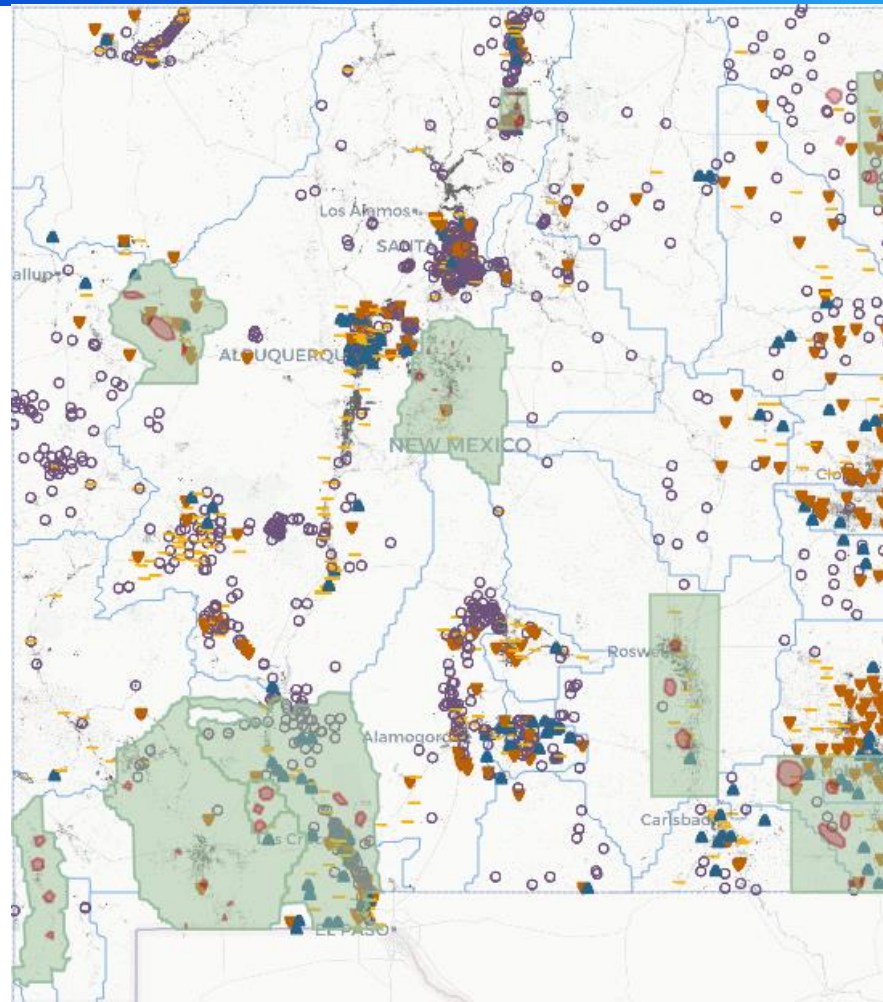
# NM 360 Groundwater Report: By the Numbers

- 50% of state water supply
- 78% of drinking water supply portfolios
  - 87% of NM communities ~ 81% of public water systems depend on groundwater for municipal water
- 170,000+ private wells
- 19 of 23 federally recognized Nations, Tribes & Pueblos
- 24 of 33 New Mexican counties
- 78% of total groundwater use is for irrigated agriculture.



# Groundwater declines reaching crisis levels in some areas of NM

*Aquifer drawdown threatens rural communities' drinking water supply & agricultural economies.*



## Groundwater Level

▲ Increasing

— Steady

▼ Decreasing

○ Insufficient Data

## Map Features

■ Recommended Locations for New Groundwater Monitoring Wells

■ High Priority Region for Groundwater Monitoring Network Expansion

□ Groundwater Basins

● Point of Diversion  
(Larger Size = Greater Water Right)

# Current Groundwater Management Tools

## Legal Tools:

- ❖ Prior Appropriation Enforcement
- ❖ OSE Well Permit Conditions & Protests
- ❖ Metering Orders
- ❖ OSE Criteria for Determination of Impairment
- ❖ OSE Drawdown Standards
- ❖ OSE Closure of Basins to New Appropriations
- ❖ Regionalization of (Groundwater-dependent) Domestic Water Systems



# Managed Groundwater Declines

## – NM OSE GW Basin Designations

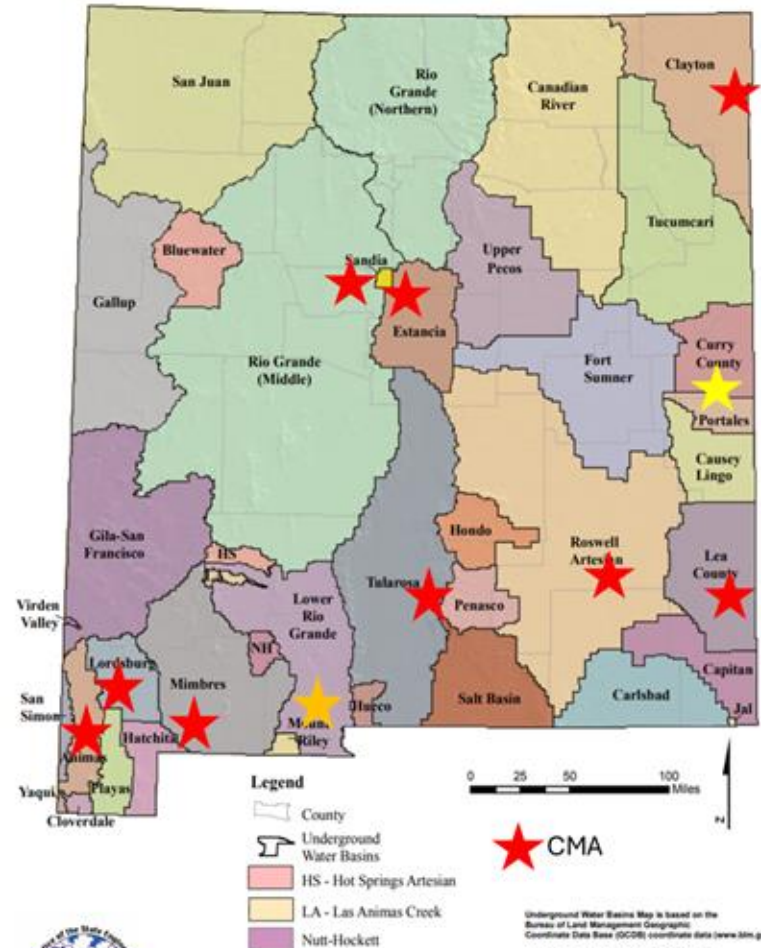
- Closed Basins = no new appropriations allowed
- Critical Management Areas (CMAs) are areas of excessive rates of water level declines – which trigger further use restrictions.
- Most CMAs are on a 2040-2058 planning horizon (40 years).

Example: Eastern Clayton Basin:

120 ft domestic water column

70% = 80ft allowable drawdown

2ft/yr for 40 years



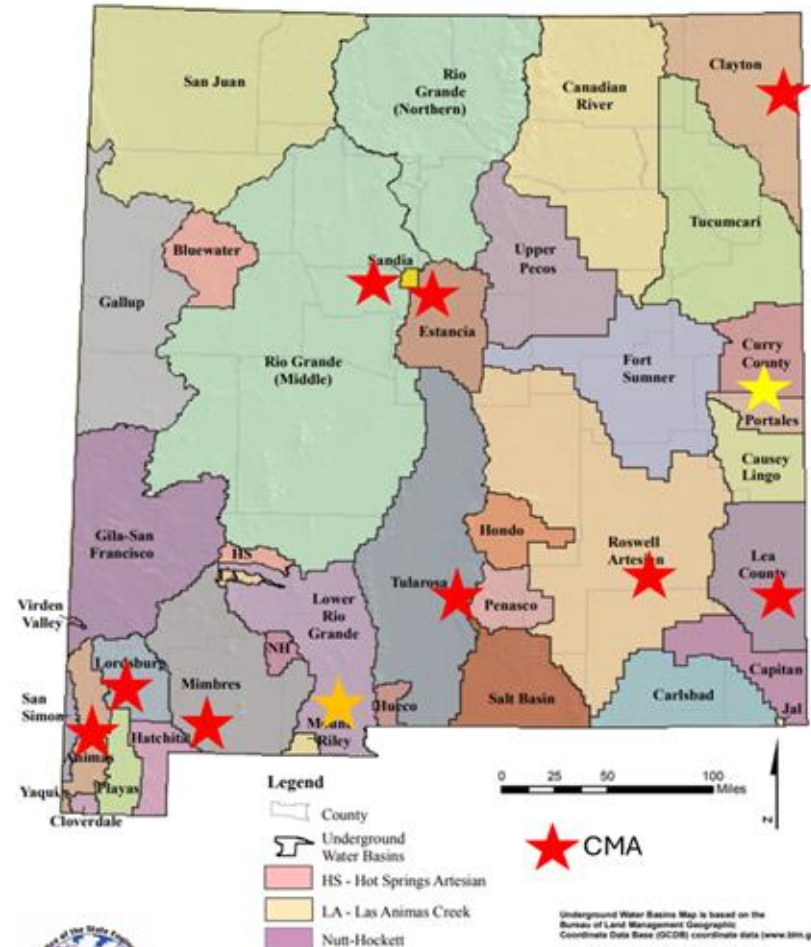
Underground Water Basins Map is based on the Bureau of Land Management Geographic Coordinate Data Base (GCS) coordinate data ([www.blm.gov/gcbs](http://www.blm.gov/gcbs))  
Map is created in UTM, NAD83, Zone 13, Meters.  
Created on October 24, 2005 by Christine Nefficker  
OSE Water Resource Allocation Program  
File: \\G:\a\Statewide\_projects\NewBasins\Print\utl\_basin.mxd

# Managed Groundwater Decline

Addressing any impairment to existing rights as grounds for denial of new groundwater permits ~ would eliminate nearly all new water uses.

- Southern High Plains Aquifer is a CMA nearing end of useful life.
- Aquifer management regulations don't include parameters for when an aquifer is at the end of its useful life.

New Mexico Office of the State Engineer  
Underground Water Basins in New Mexico



Underground Water Basins Map is based on the Bureau of Land Management Geographic Coordinate Data Base (GDB) coordinate data ([www.blm.gov/gdb/](http://www.blm.gov/gdb/)). Map is created in UTM, NAD27, Zone 13, Meters. Created on October 24, 2005 by Christine Wolfstar OSE Water Resource Allocation Program. File: \\GIS-01\Statewide\_projects\NewBasins\Final\UTM\_metro.mxd

# Current Groundwater Management Tools

## Management Tools

- ❖ ISC Buy & Dry Program (Lower Pecos Settlement)
- ❖ Managed Recharge (ABCWUA) and Aquifer Storage & Recovery (ABCWUA & Rio Rancho)
- ❖ Forbearance-Leasing Programs
- ❖ Conservation Water Programs
- ❖ Farm Bill Programs (CRP)

- ❖ Streamflow Augmentation
- ❖ Open ET = Remote Sensing
- ❖ Graceful Failure



# NM Communities Need Support:

- Maintaining and securing future access to water (wells going dry)
- Water Infrastructure & quality needs
- Funding Needs
- Support Implementing water conservation
- Planning for the future
- Understanding regulatory requirements on water quality and quantity
- Navigating the multiple state agencies involved in water management (water rights, infrastructure, quality...)



Source: Water Can't Wait

# Local Groundwater Solutions in NM



## High Plains (Ogallala) Aquifer and the Ogallala Land and Water Conservancy

- Curry County
- Voluntary, market-based model to conserve agricultural land and aquifer levels



## Pecos River Valley and the Pecos Valley Artesian Conservancy District

- Chaves & Eddy Counties
- GW Rights Adjudicated- Ensures that wells with a water right are metered
- Creating the PVACD allowed for local level governance of groundwater and the funding mechanism to support the work to manage water conservation in the Pecos Valley- the #1 reason that the district (PVACD) works.

# Local Groundwater Solutions in NM



## Lower Rio Grande Groundwater Conservation Program

- ISC/OSE created the LRGGCP to address Rio Grande Compact water deliveries to Texas
- Voluntary grant program that financially compensates agricultural irrigators to stop irrigating previously irrigated parcels for 1-2 years.

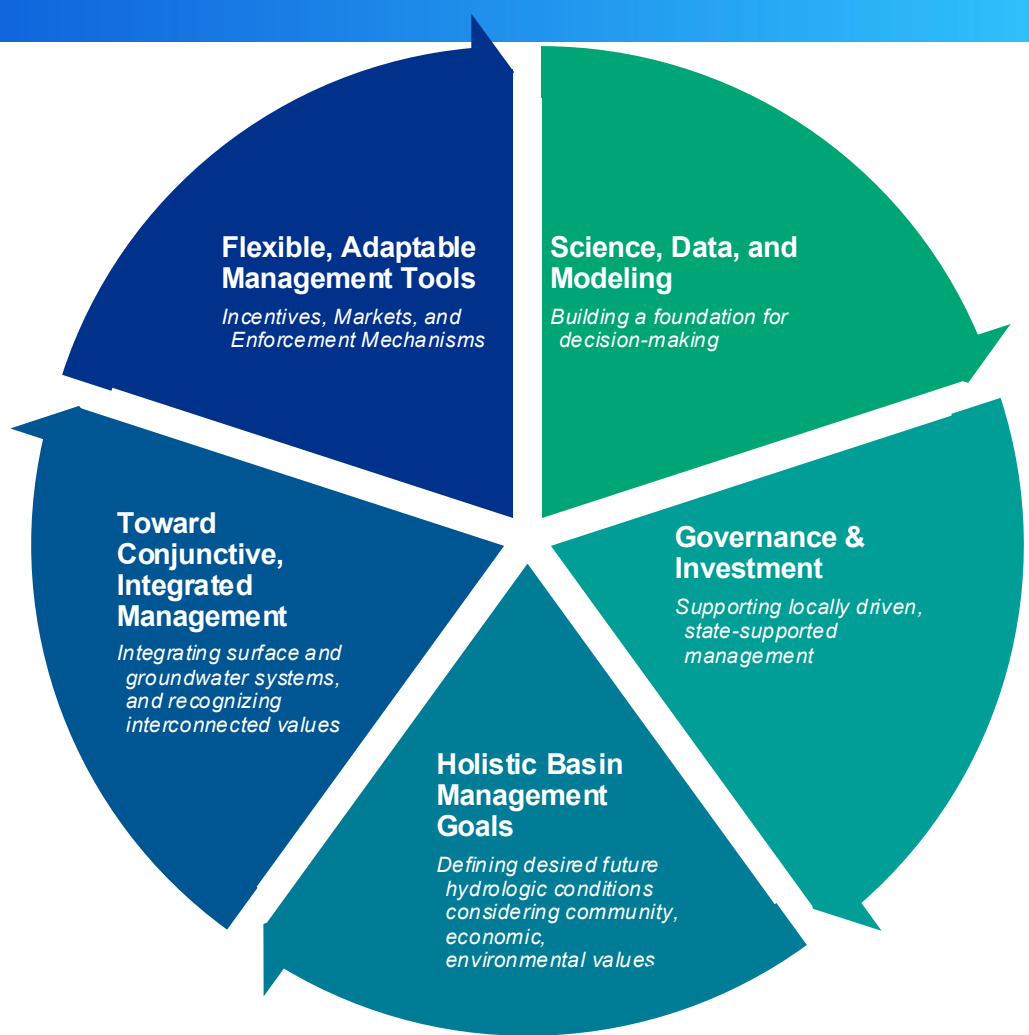


## Cañada de Los Alamos Mutual Domestic Water Association

- Santa Fe County
- Proactive planning & community education
- Water infrastructure projects to protect the village's strained water resources



# Elements of Sustainable Groundwater Management



# Lessons from Across the West

**Oregon:** A Tiered Approach to Tailored Management

**Montana:** Management Driven by Impacts to River and Stream Flows

**California:** The SGMA Milestone and a Cautionary Tale

**Nevada:** Walker River Basin Priority-Based Management

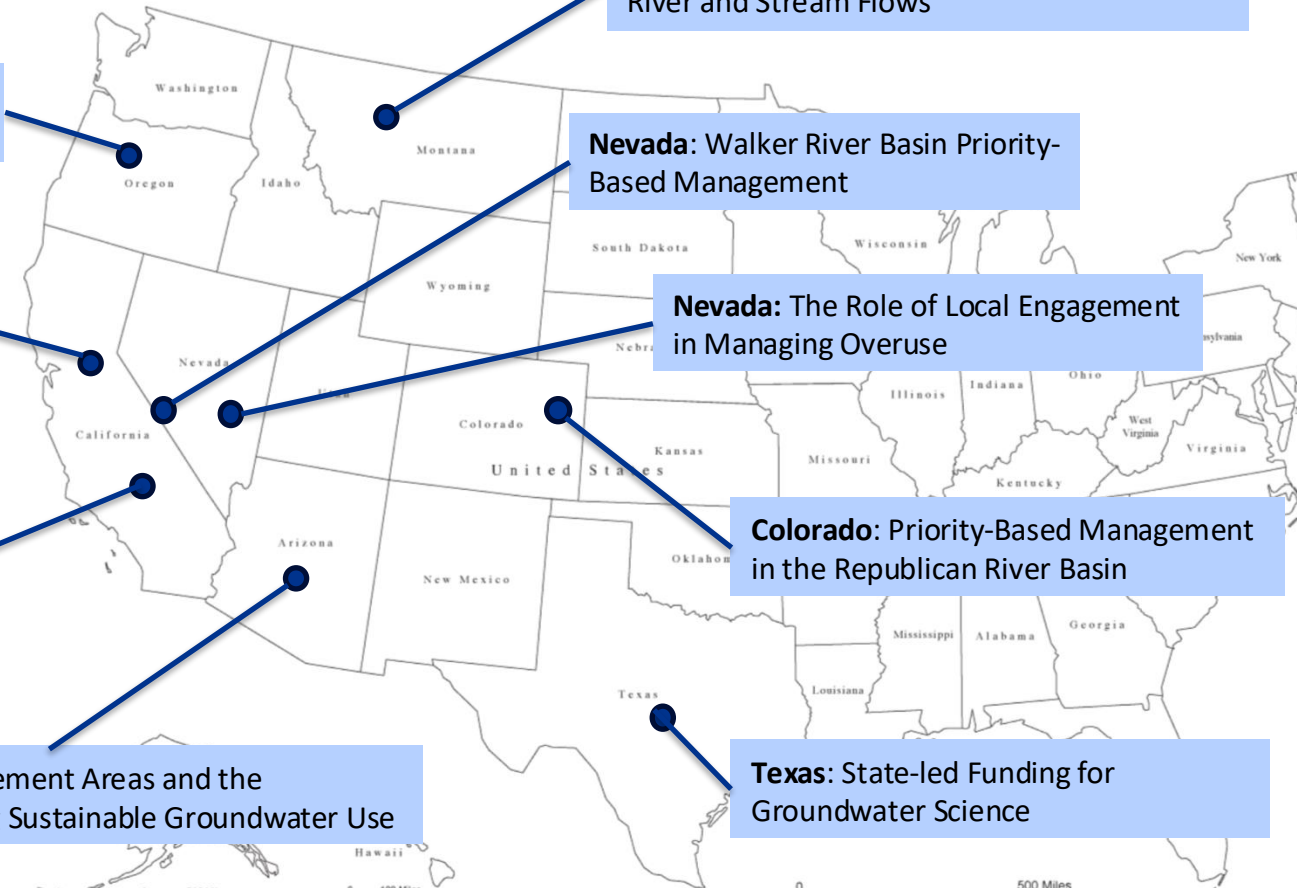
**California:** A Unique Path to Innovative, Integrated Groundwater Management: The Mojave Basin Settlement

**Nevada:** The Role of Local Engagement in Managing Overuse

**Arizona:** Active Management Areas and the Challenges of Achieving Sustainable Groundwater Use

**Colorado:** Priority-Based Management in the Republican River Basin

**Texas:** State-led Funding for Groundwater Science



# Local Control vs. State Oversight

*Where's the right balance?*

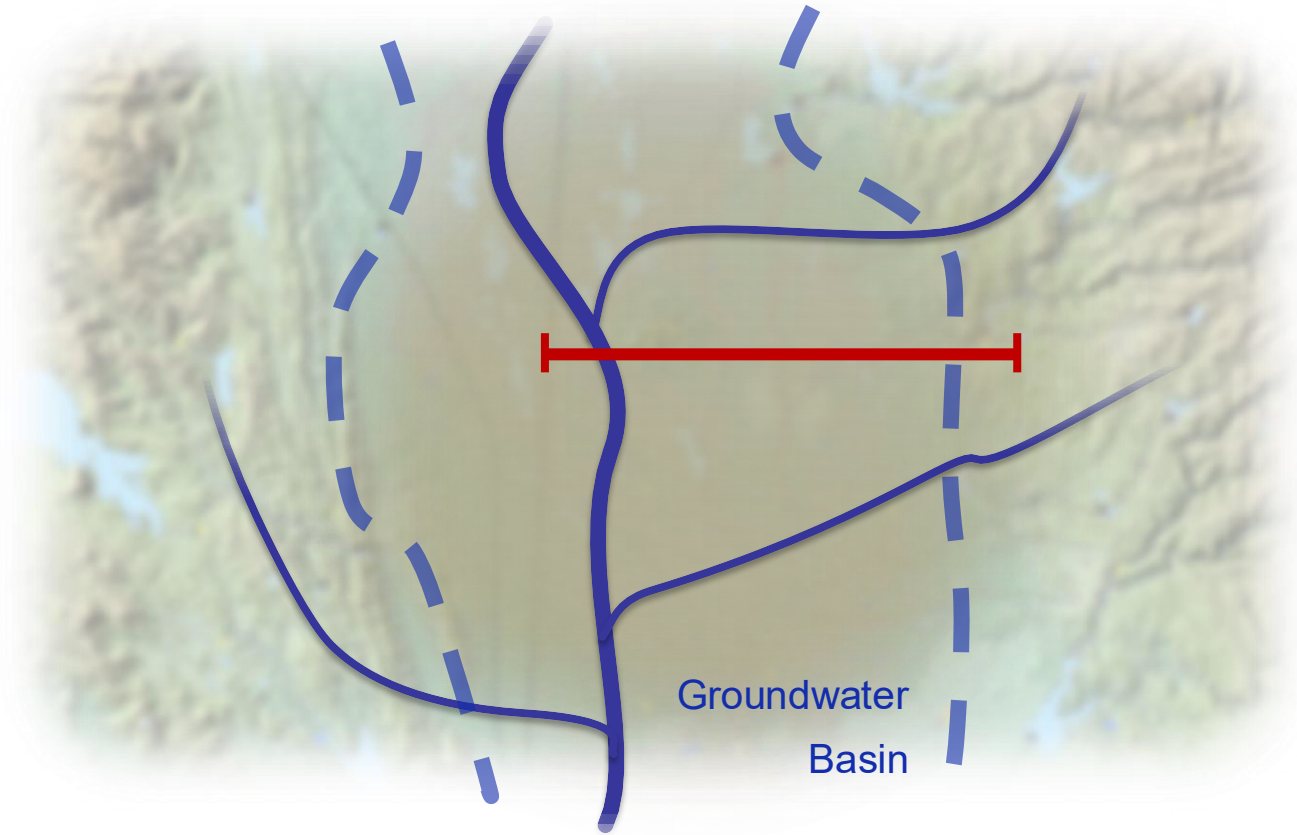
Nevada: Critical Management Areas		Arizona: Active Management Areas
<ul style="list-style-type: none"><li>● Local stakeholders develop <b>groundwater plans</b> to address overuse.</li><li>● State provides oversight but <b>only intervenes if local plans do not make progress</b> (10-year window).</li><li>● <b>Lesson:</b> Local-driven solutions work <b>if</b> there's a backstop to ensure action.</li></ul>		<ul style="list-style-type: none"><li>● <b>Basin-specific management goals</b> guide conservation efforts.</li><li>● Some AMAs aim for sustainability (<b>safe yield</b>), while others allow <b>planned depletion</b>.</li><li>● <b>Lesson:</b> Custom approaches allow flexibility, but <b>without enforcement, goals can be undermined</b>.</li></ul>

# Data and the Consequences of Inaction

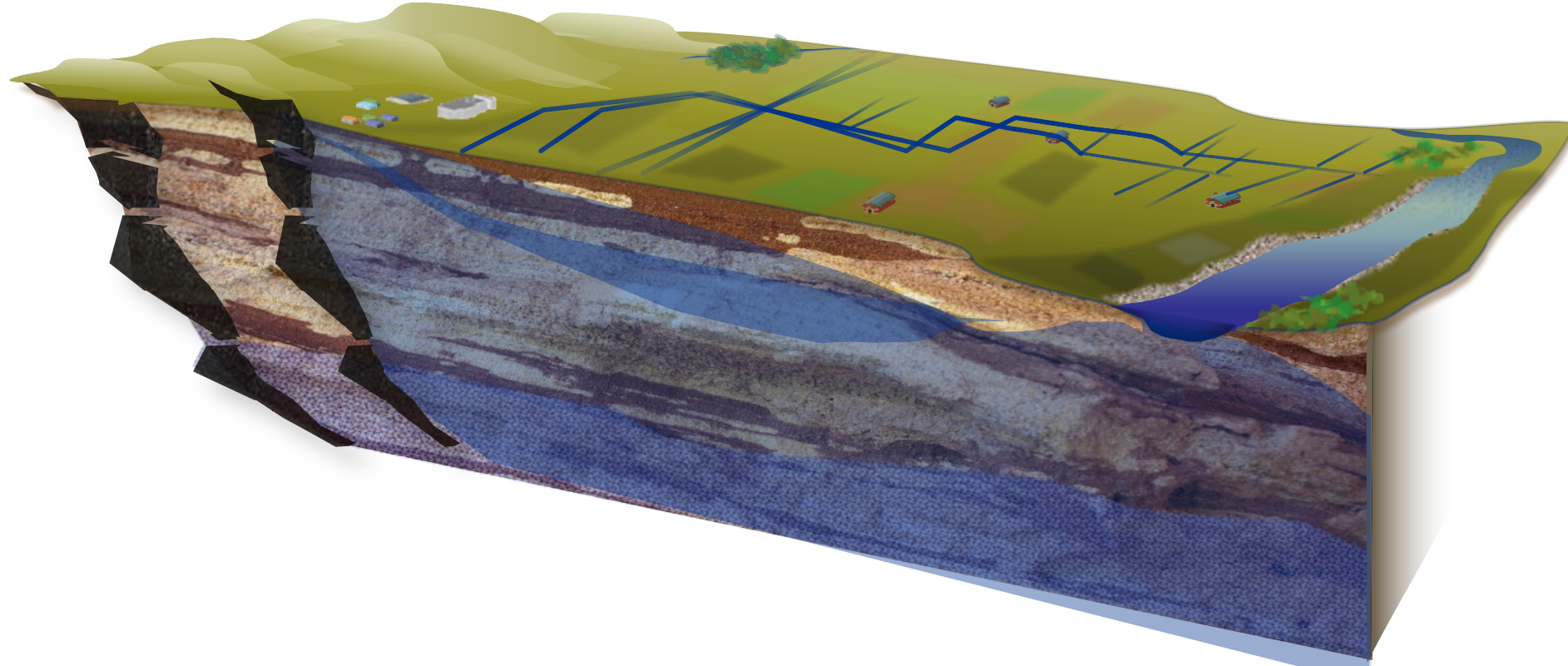
## *The importance of funding science – and acting on it*

Texas: The power of state-led hydrologic modeling	California: Delays in action under SGMA
<ul style="list-style-type: none"><li>● Texas Water Development Board provides <b>data-driven models</b> to inform local management.</li><li>● <b>Cutting funding led to gaps in groundwater science</b>, making management harder.</li><li>● <b>Lesson: Data is essential—but only effective if it's funded and used.</b></li></ul>	<ul style="list-style-type: none"><li>● 2014 Sustainable Groundwater Management Act (SGMA) <b>gave 25 years for full implementation.</b></li><li>● <b>New groundwater pumping increased</b>, worsening aquifer declines and land subsidence.</li><li>● <b>Lesson: Delays in enforcement allow problems to worsen.</b> Action must happen <b>before</b> crises hit.</li></ul>

# A Mindset Pivot for NM's Future: Aquifers are Water Infrastructure

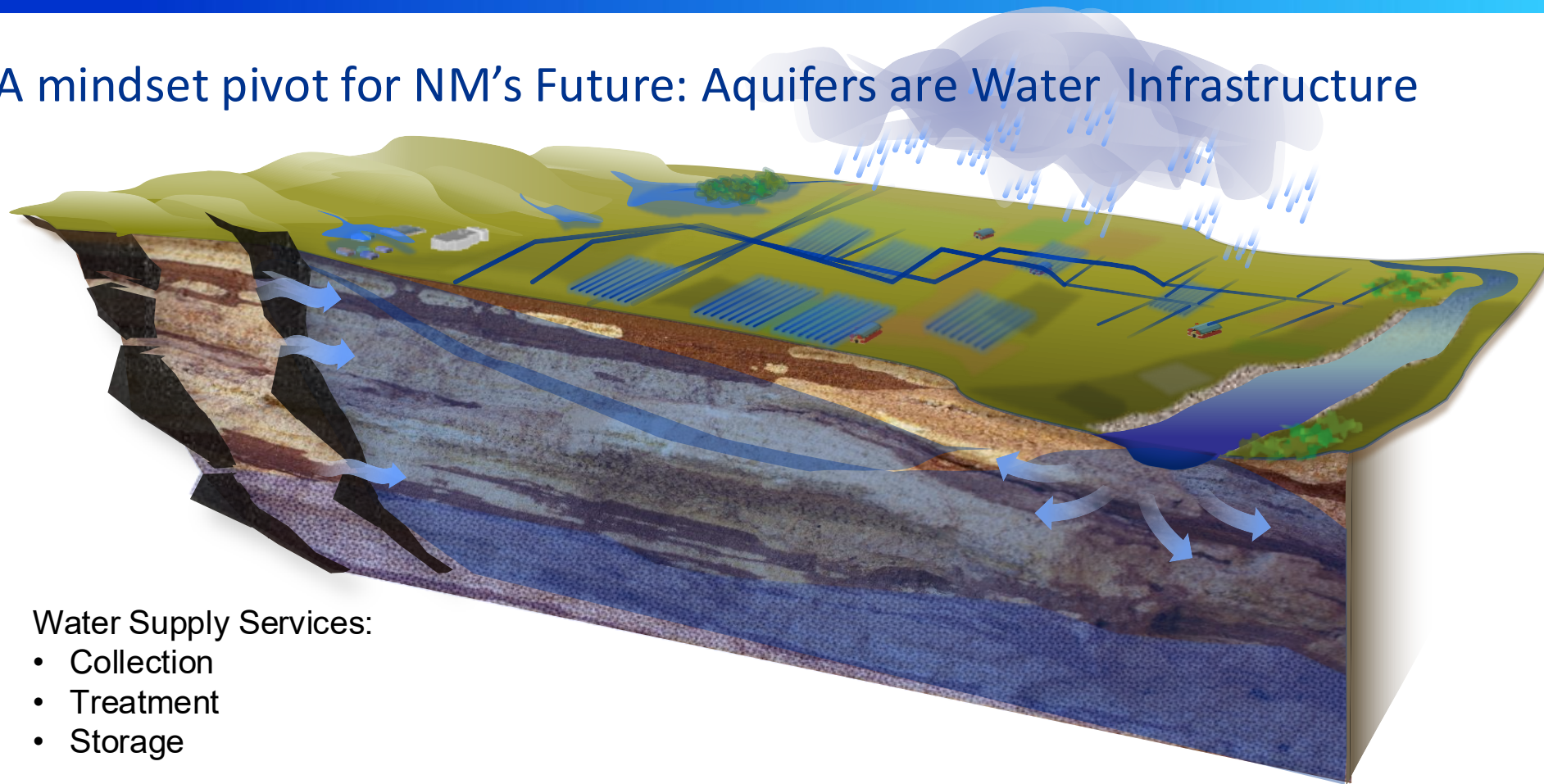


# A Mindset Pivot for NM's Future: Aquifers are Water Infrastructure



*Illustrative cross section, not to scale*

# A mindset pivot for NM's Future: Aquifers are Water Infrastructure

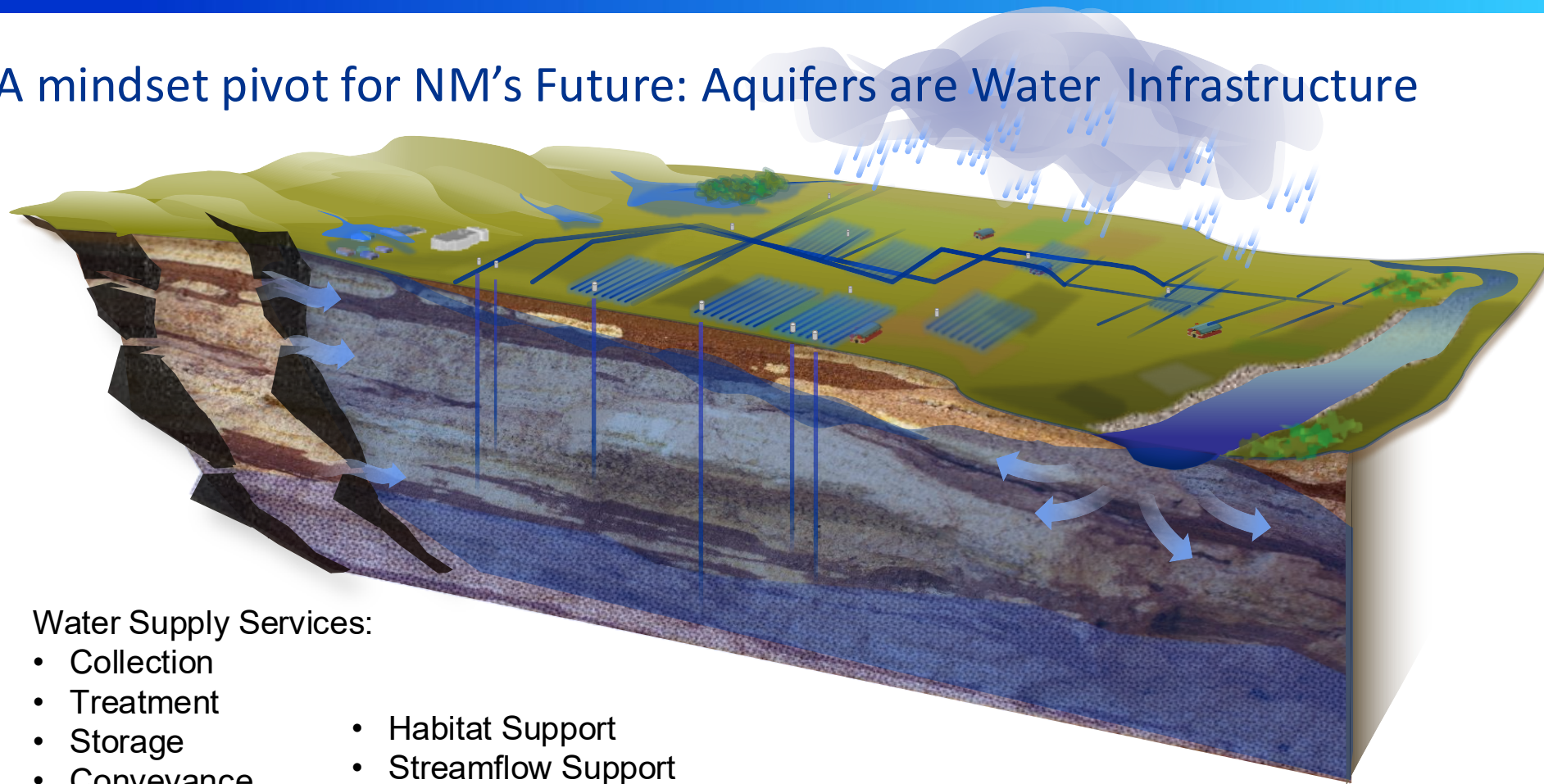


## Water Supply Services:

- Collection
- Treatment
- Storage

*Illustrative cross section, not to scale*

# A mindset pivot for NM's Future: Aquifers are Water Infrastructure



## Water Supply Services:

- Collection
- Treatment
- Storage
- Conveyance
- Habitat Support
- Streamflow Support

*Illustrative cross section, not to scale*

# Recommendations for NM's Groundwater Future



- Treat Aquifers as Critical Infrastructure
- Accelerate Aquifer Mapping, Monitoring, and Characterization
- Expand Statewide Groundwater Metering
- Expand Use of Evapotranspiration (ET) Data
- Develop a Statewide Groundwater Management Framework to Guide Local Management
- Support Community-Driven Groundwater Planning and Conservation with Robust Data and Tools

# Recommendations for NM's Groundwater Future



- Enable Meaningful Engagement with Tribes, Pueblos, and Nations in Groundwater Policy and Management
- Transparent Community Engagement and Education to Address Groundwater Concerns
- Ensure that Groundwater is Appropriately Integrated in Regional Water Planning
- Exercise Assertive Control/Limit New Groundwater Permits and Pumping
- Provide Guidance for Conjunctive Management
- Support and Expand Water Quality Monitoring

# Big Takeaways for NM's Groundwater Future

- Prepare for climate change and long-term water security without over depleting groundwater resources.
- Fund/Support the Aquifer Mapping Program at NMBGMR to provide much needed groundwater data.
- Treat aquifers as critical infrastructure
- Accelerate aquifer mapping and monitoring
- Accelerate groundwater metering
- Promote & support Tribal & Pueblo outreach for leadership in groundwater management strategies
- Expand use of evapotranspiration (ET) data
- Develop statewide framework to guide local groundwater management
- Modernize Local Groundwater Governance to help local communities effectively manage groundwater for longevity.



# Continue the Conversation

## Webinar #2: March 5, 2026

12:30pm MT

New Mexico Groundwater Data,  
Science & Administrative Tools



[https://edf.zoom.us/webinar/register/1917712850786/WN\\_rIBnhBpgR0WMvR7tqTXqxw#/registration](https://edf.zoom.us/webinar/register/1917712850786/WN_rIBnhBpgR0WMvR7tqTXqxw#/registration)

## Webinar #3: March 23, 2026

5pm MT

New Mexico Case Studies of  
Groundwater Management



[https://edf.zoom.us/webinar/register/9717713656795/WN\\_0TzAvzPZQ3m614z66AEYIQ#/registration](https://edf.zoom.us/webinar/register/9717713656795/WN_0TzAvzPZQ3m614z66AEYIQ#/registration)

# *Thank you!*

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