

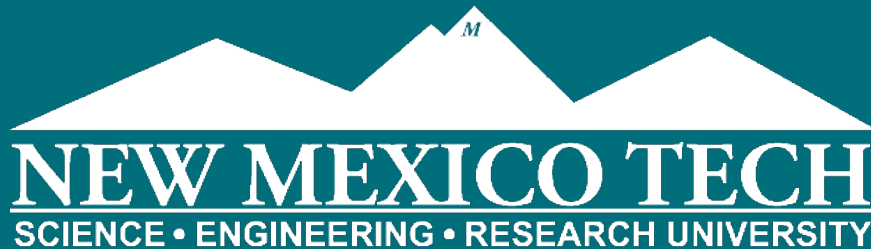
WATER PROGRAMS OVERVIEW

NEW MEXICO BUREAU OF GEOLOGY AT NEW MEXICO TECH



Stacy Timmons, Associate Director, Hydrogeology Programs

January 2026



WATER PROGRAMS AT NM BUREAU OF GEOLOGY



Aquifer Mapping and Monitoring Program

Characterize the quantity, quality, and distribution of groundwater in aquifers using geology, geophysics, hydrology, and chemistry information

Groundwater level monitoring (currently funded by philanthropic funds from Healy Foundation)



Water Data Initiative

Began in 2019, after the Water Data Act

Convening the work with multiple state agencies

Working to make NM water data more accessible and usable



Water Education Program

For legislators, staff and state water leaders

Focusing on increasing awareness and education on critical water issues in NM

Growing program to include tribal water issues and increasing public education

AQUIFER MAPPING AND MONITORING PROGRAM IN NEW MEXICO

What We Do

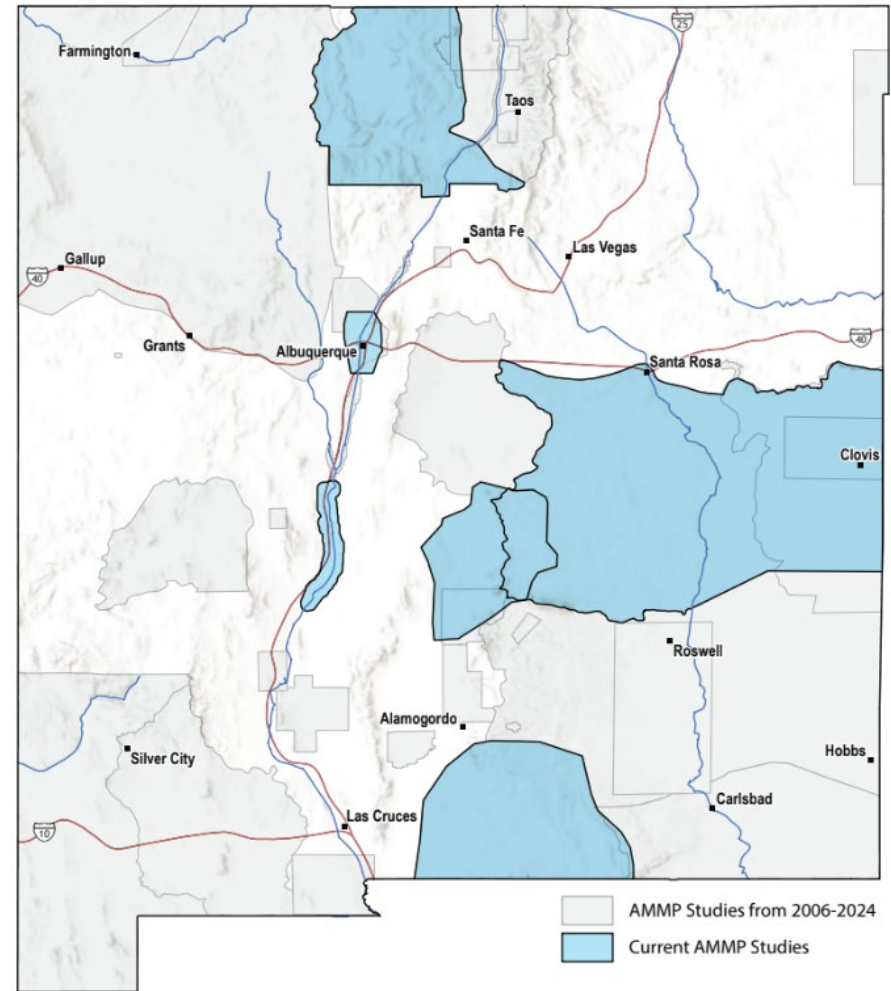
- We analyze the quantity, quality, and distribution of groundwater within aquifers by integrating geological, geophysical, hydrological, and chemical data
- Our work supports communities, agencies, policymakers, and managers in making informed, science-driven decisions on water resources
- We work with funding and support from state, federal, local and philanthropic sources



All together, our team currently has over 250 years of experience!

SELECT PROJECTS AND WORK UNDERWAY

- Rio Arriba County hydrogeology
 - Complete in Summer 2026
- 3D Hydrogeology Models
 - Central High Plains and Salt Basin regions
- Carrizozo regional hydrogeology
 - Year I complete
- Rio Grande – San Acacia reach
 - Groundwater and soil-water monitoring
- Albuquerque region (ABCWUA)
 - Annual groundwater change mapping



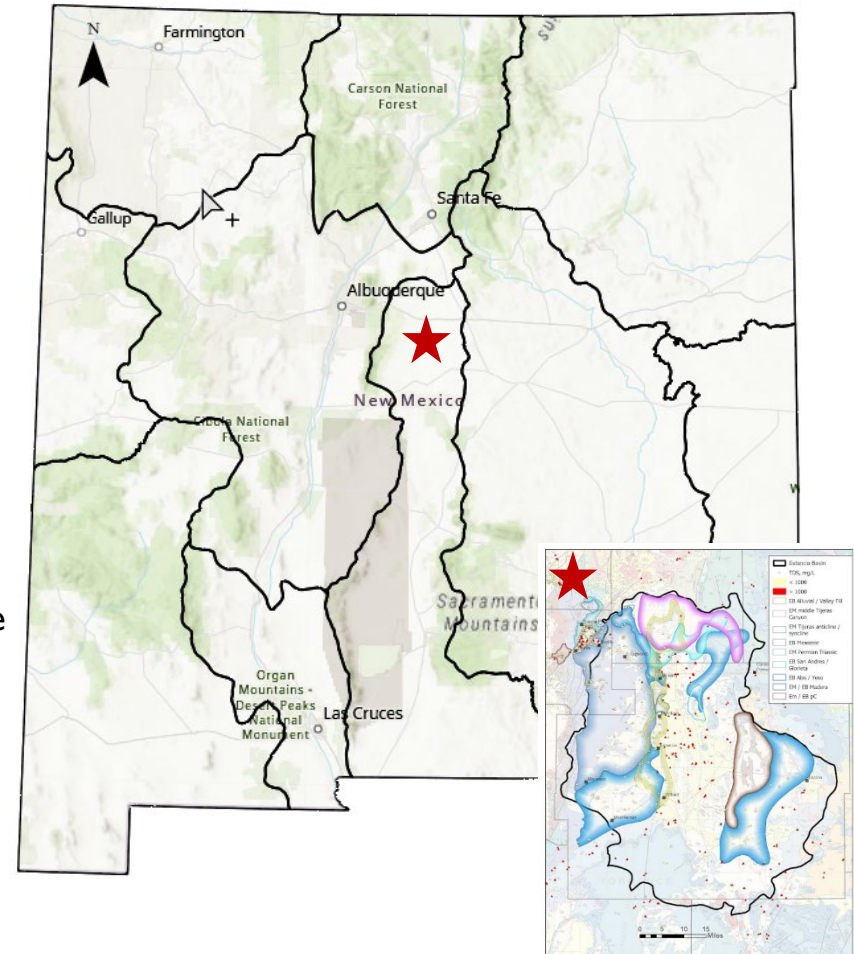
STATEWIDE PROJECTS: GROUNDWATER SUMMARIES & 2D AQUIFER MAPPING

Statewide Groundwater Summaries

- Comprehensive groundwater summaries of 10 regions
- Emphasize current understanding and identify data gaps for future research
- Delivered as technical regional summaries and fact sheets
- Online interactive tools and publications planned for release by Summer 2026
- Initial funding provided by Thornburg Foundation

2D Aquifer Mapping

- Delineate extent of major and minor aquifers across state
- Evaluate prior studies and review hundreds of well logs per region to establish formation completions and depths
- Expected completion scheduled for Fall 2026
- Funded by OSE / ISC

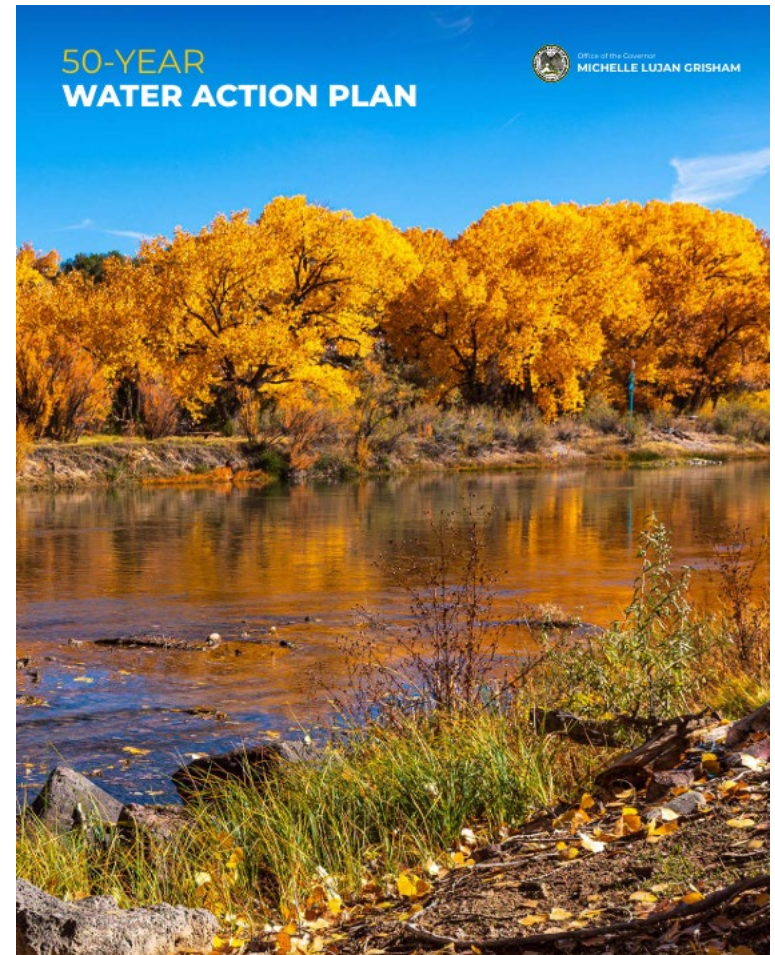


Estancia Basin

AQUIFER MAPPING AND MONITORING LONG-TERM GOALS

Action B3 – New Mexico’s 50-year Water Action Plan

1. **Identify and characterize major and minor aquifers within the state, including fresh and brackish sources**
 - Develop comprehensive subsurface datasets and model layers to support groundwater management and planning efforts
 - Produce accurate estimates of aquifer boundaries, water quality, and production potential for fresh and brackish aquifers
 - Create online visual tools to provide accessible aquifer visualizations
2. **Establish a statewide groundwater-monitoring network with 100 dedicated wells by 2037**
 - Regional and statewide dashboards to effectively monitor groundwater levels



GEOPHYSICS FOR GROUNDWATER RESOURCES: AIRBORNE ELECTROMAGNETIC SURVEYS (AEM)

AEM surveys help to identify fresh & brackish groundwater

- Facilitate mapping of aquifers & locate sites for new monitoring wells
- Enable coverage of extensive areas without disturbing the ground
- Depth of investigation: ~1500 ft (*depending on equipment & local conditions*)

Numerous successful case studies

- California, Nebraska, Kansas, Alaska, Michigan

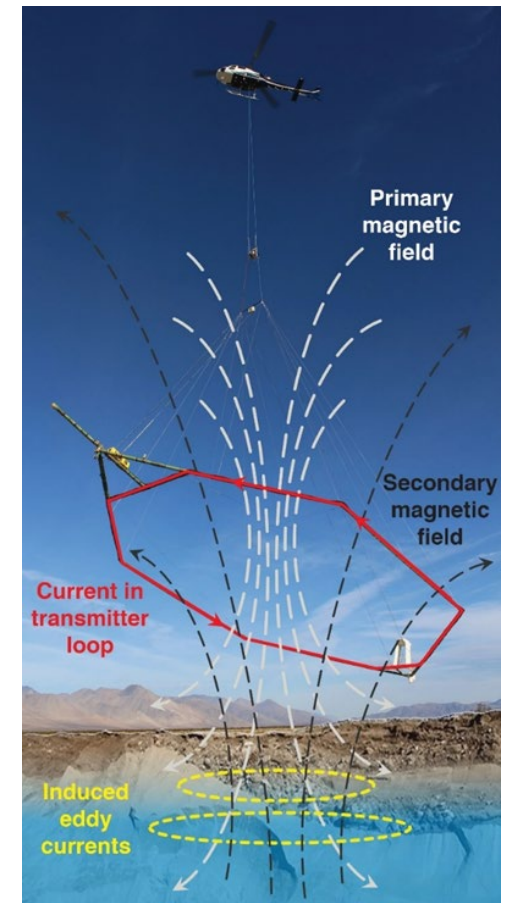
Ongoing evaluation of technologies tailored for New Mexico basins

- FY26 initiatives: assess tools, optimize survey coverage, and manage costs



Typical Configuration

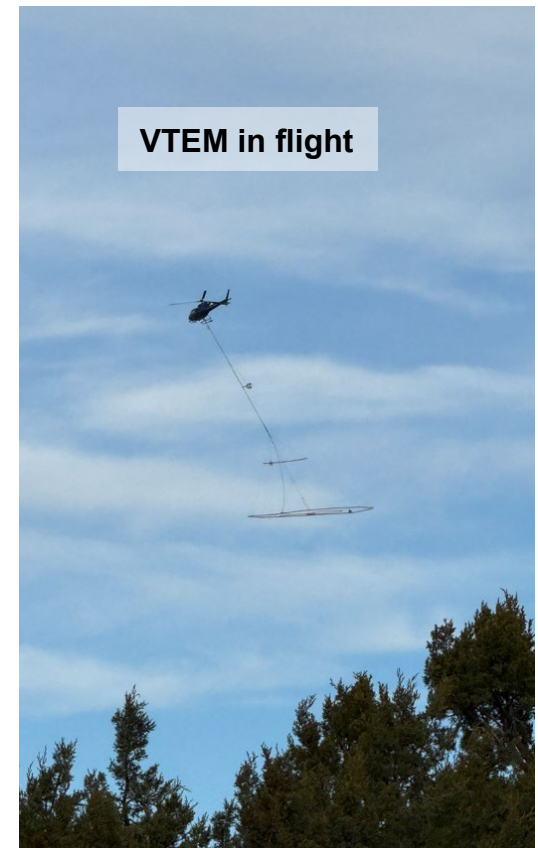
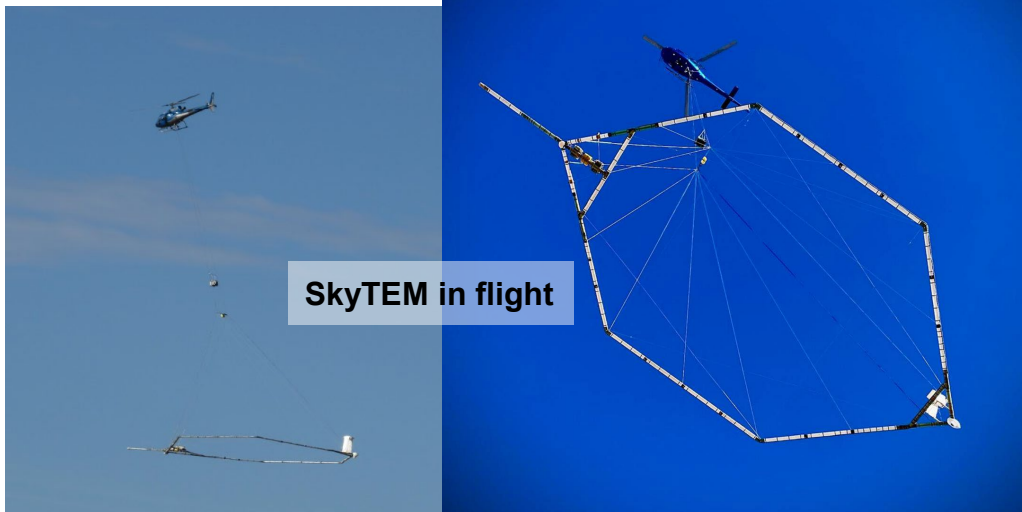
- 66-ft diameter hoop
- Suspended 100 ft above ground
- Speeds of 50-60 MPH
- Winds <15 MPH



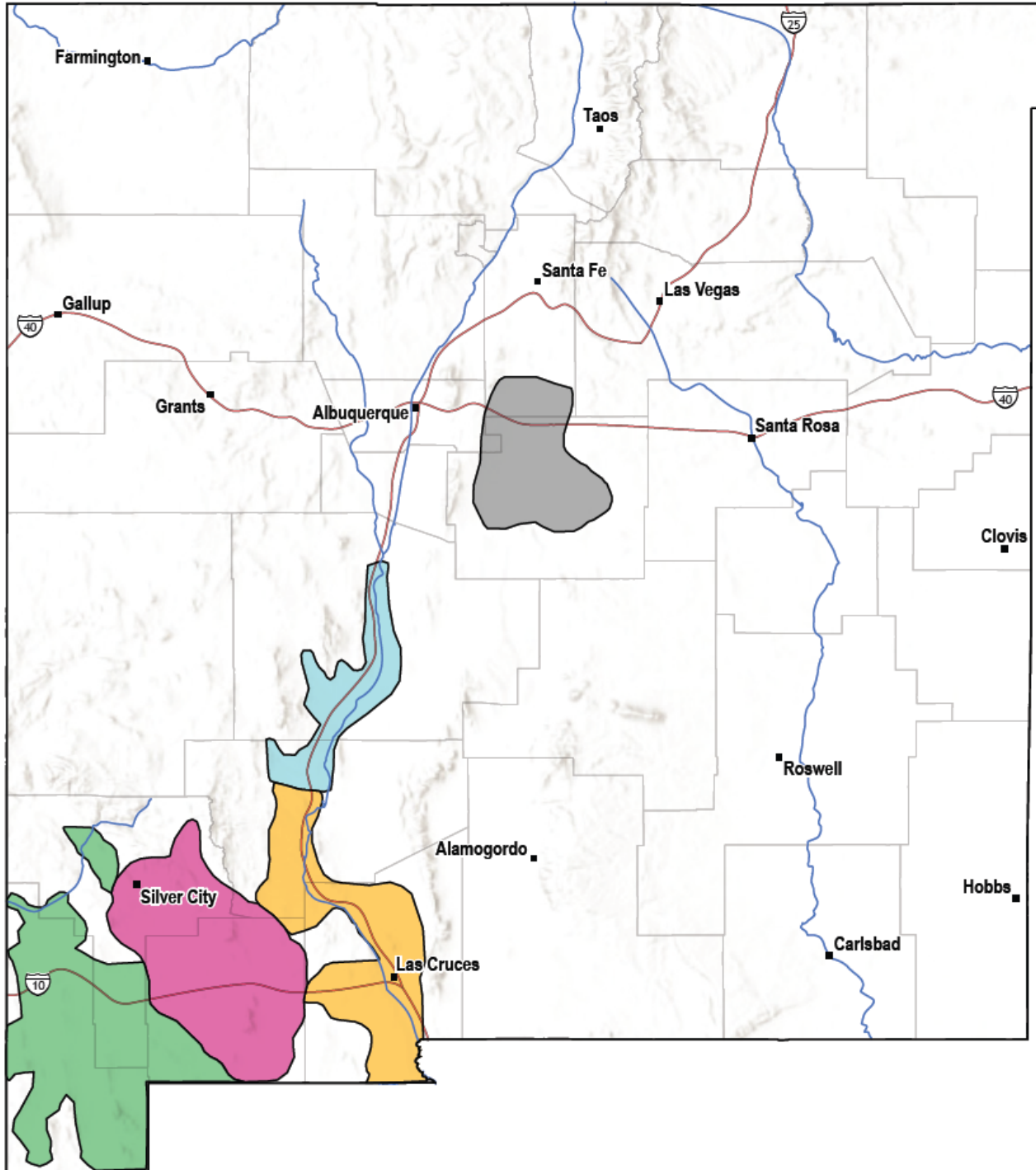
AEM Survey Schematic (from CA DWR)

AEM FOR GROUNDWATER RESOURCES

- Conduct geophysical surveys across 5-6 areas
- Evaluate geophysical technologies tailored for New Mexico
 - Using SkyTEM (306HP & 312HP) and VTEM-ET for AEM surveys
 - First-year goal to optimize survey coverages and manage costs

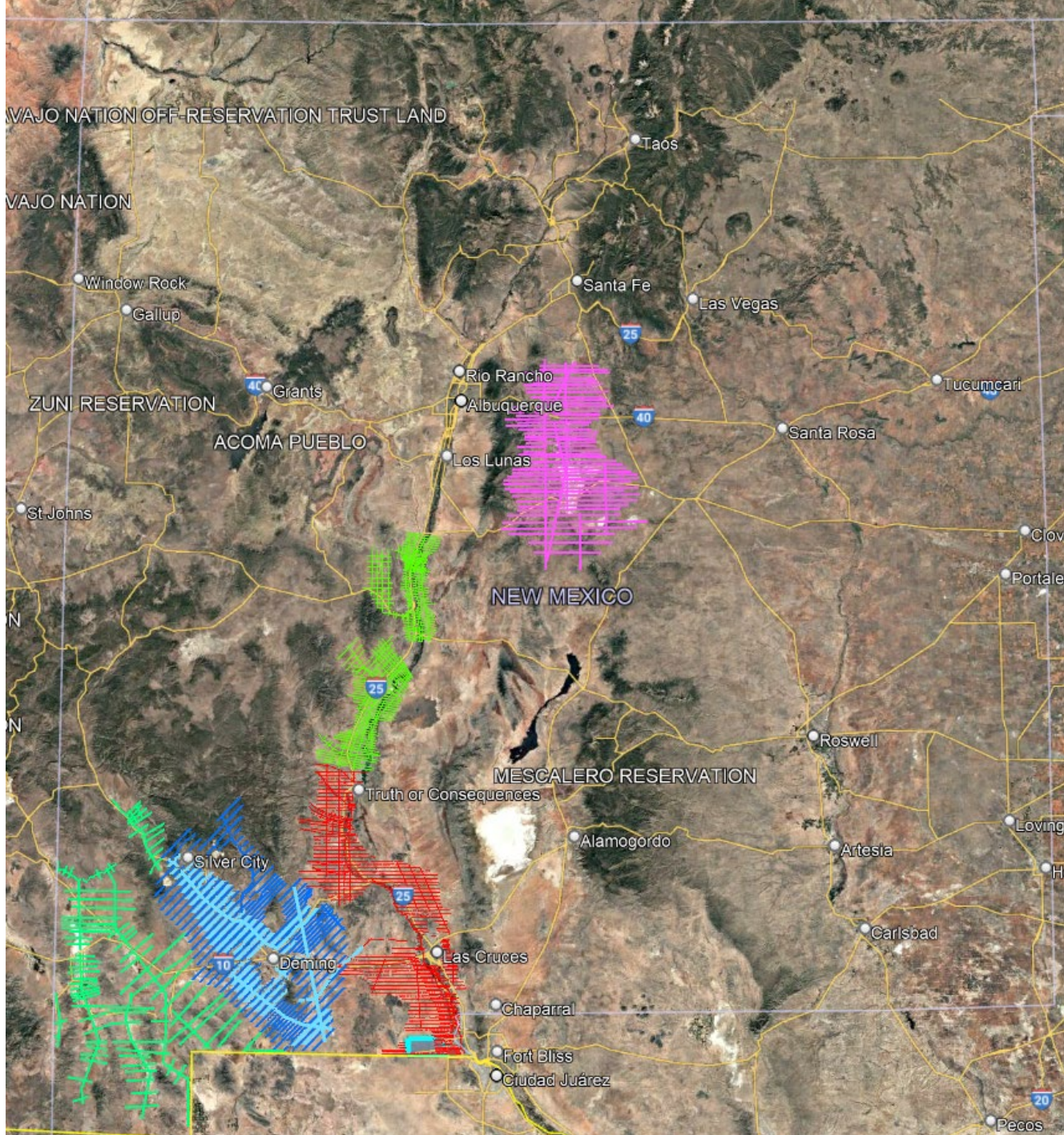




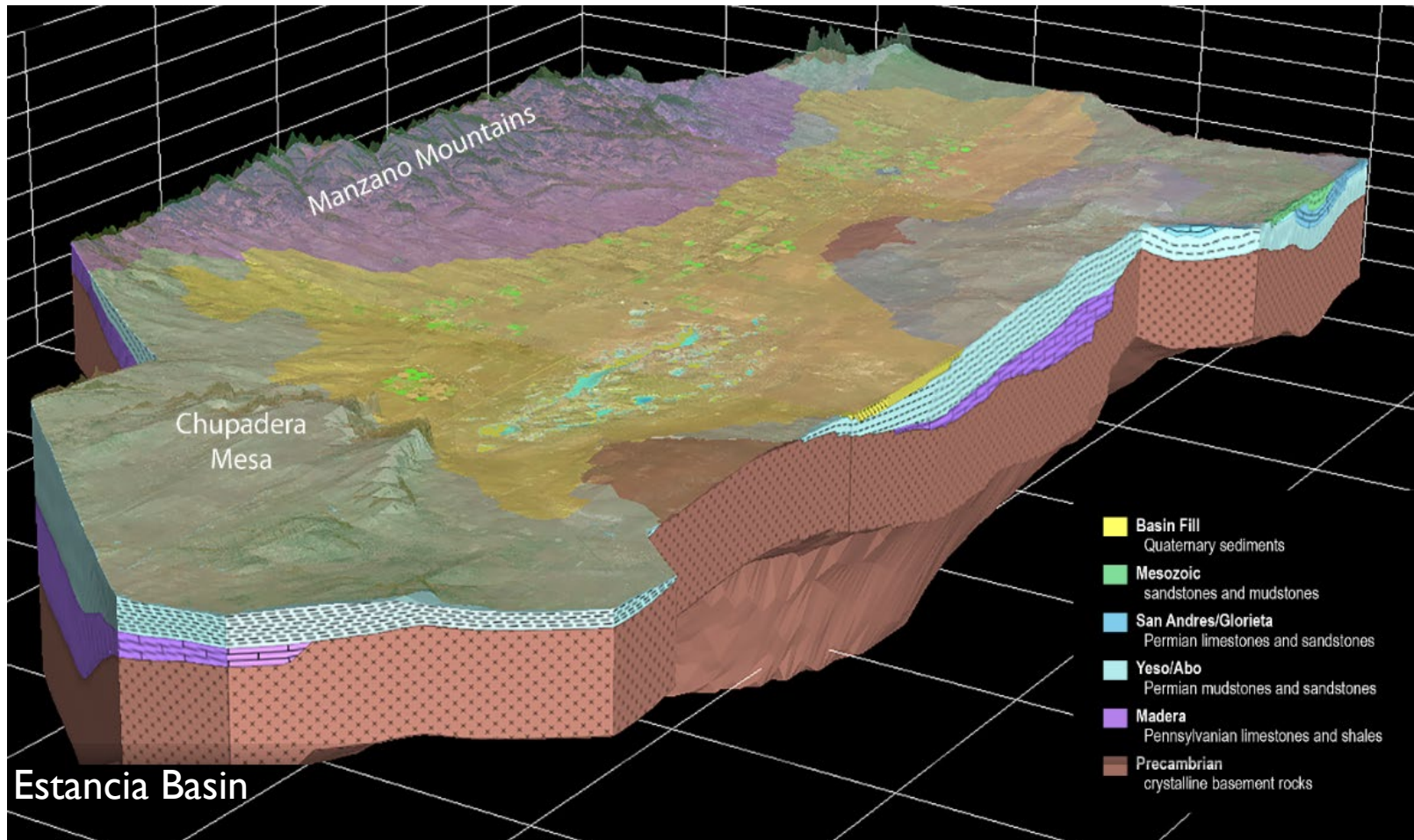


AEM Survey Regions

- Estancia Basin
- Middle Rio Grande
- Lower Rio Grande
- Mimbres Basin
- Gila-Animas



NEXT STEPS: BUILD IMPROVED MAPS & MODELS



AQUIFER CHARACTERIZATION AND MONITORING TARGET FUNDING

RECURRING FUNDING

- Covers staff to collect and interpret new data, build/run models, prepare reports, manage projects, and develop workforce
- Annual funding now at \$1,150,000 (FY26)
- **Request for FY27: \$1M**
 - Cover recurring costs for additional new staff (FTE), advanced software licenses / training, and enhanced project/data management

NON-RECURRING FUNDING

- Covers large one-time expenses, including geophysical surveys, scientific exploratory well permitting, drilling, and sampling, and development / management of large and growing datasets
- Received \$7.5M for FY26
- **Request for FY27: \$22M for water programs** (*includes water data*)



Get AMMPed!

A publication of the Aquifer Mapping and Monitoring Program (AMMP)

NEW MEXICO TECH



HELI GOOD DATA: MAPPING GROUNDWATER ACROSS NEW MEXICO

On a crisp December morning at the Municipal Airport in Deming, New Mexico, community leaders and stakeholders gathered to learn about a new collaboration between AMMP and the State of New Mexico to map groundwater across the state using airborne electromagnetic (AEM) surveys.

"As New Mexicans, we all have a deep understanding that our water resources are foundational," said State Representative Nathan Small. "They're the limit to sort of what is possible, but they're also the way forward."

Conversations centered water as foundational to life in New Mexico and essential for its continued flourishing into the future.

Deming Mayor Michele Shillito highlighted the role reliable water data plays in supporting local economies, while Priscilla Lucero, executive director of the Southwest New Mexico Council of Governments, stressed the importance of reliable water supplies for agriculture, particularly the production of a staple ingredient in New Mexican cuisine—chile.



“OUR FUTURE
DEPENDS ON
OUR ABILITY TO
CONTINUE TO
ACCURATELY
MONITOR
AND MANAGE
THE STATE'S
GROUNDWATER.”



Newsletter coming out next week -
Let me know if you want a copy!
Stacy.Timmons@nmt.edu