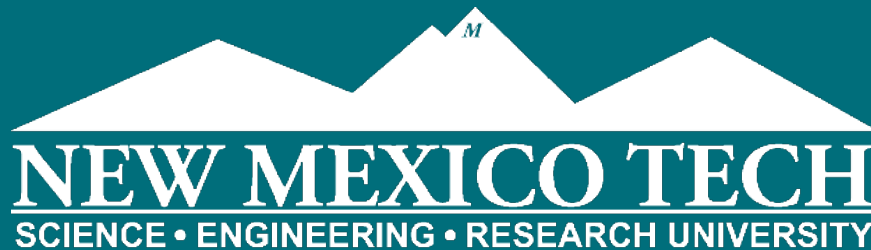# NM WATER DATA ACT: AUGUST 2024 UPDATE

FROM THE NEW MEXICO BUREAU OF GEOLOGY AT NEW MEXICO TECH

Stacy Timmons
Associate Director, Hydrogeology Programs

2019: NEW MEXICO WATER DATA ACT
NMSA 1978, § 72-4B

- NM agencies will share, integrate, and manage our water data
    - Bureau of Geology & Mineral Resources (convener)
    - Interstate Stream Commission
    - Office of State Engineer
    - Environment Department
    - Energy, Minerals & Natural Resources

QUICK UPDATE NOTES: NEW MEXICO WATER DATA ACT

- Improved coordination between agencies working on water and data (federal, state and local)

- Building data literacy and implementing more modern data sharing practices, with new APIs *that did not exist prior to Water Data Act* at all agencies

- Funding improvements at most of the state directing agencies

- Working toward integrated / combined data sets (in a federated data model) so data users do not have to hunt down siloed data in each agency and reduce data cleaning/ processing needs.

ACCORDING TO STATUTE, BY JANUARY 1, 2020, THE AGENCIES SHALL…

1. Identify key water data, information and tools needed to support water management and planning

2. Develop common water data standards for data collection

3. Develop an integrated water data and information platform, and

4. Identify available and unavailable water data.

Water Data Initiative Activity Update

The Water Data Act (NMSA 1978, § 72-4B)
January 2020

This act marks the first time in New Mexico's history that a law has been enacted to identify and integrate key water data.

View PDF

https://newmexicowaterdata.org/resources/

Hosted the first Water Data Workshop (Oct. 24, 2019) for all interested parties to learn and contribute to the future for water data in New Mexico

1ST Data Users Work Group Meeting

11 Data Challenges

80 People

2 Hours to complete challenges

8 Key Word Takeaways

Data Challenge Topics
- Water Budget
- Water Quality
- Water Planning for Growing Demand
- Rural Water Systems
- Agriculture Water Use
- Economic Development
- Watershed Management
- Produced Water Management
- Tribal/Pueblo Water Issues
- Riparian Restoration & Water Conservation
- Safe Drinking Water/Public Health

Accessibility
Usable
Informative
Organized
Diverse
Visual
Analytical
Funded

5

ALSO ACCORDING TO STATUTE…

A. Water research conducted with state funding shall comply with the data standards and best practices developed by the agencies

B. The agencies shall collaborate with other regional and national efforts to share, integrate and manage water data

C. The agencies shall develop and submit a plan to the governor and appropriate interim legislative committees that details:

- An assessment of water data and information needs to support water management and planning

- Goals, targets, metrics, and actions to carry out the purposes of the Water Data Act

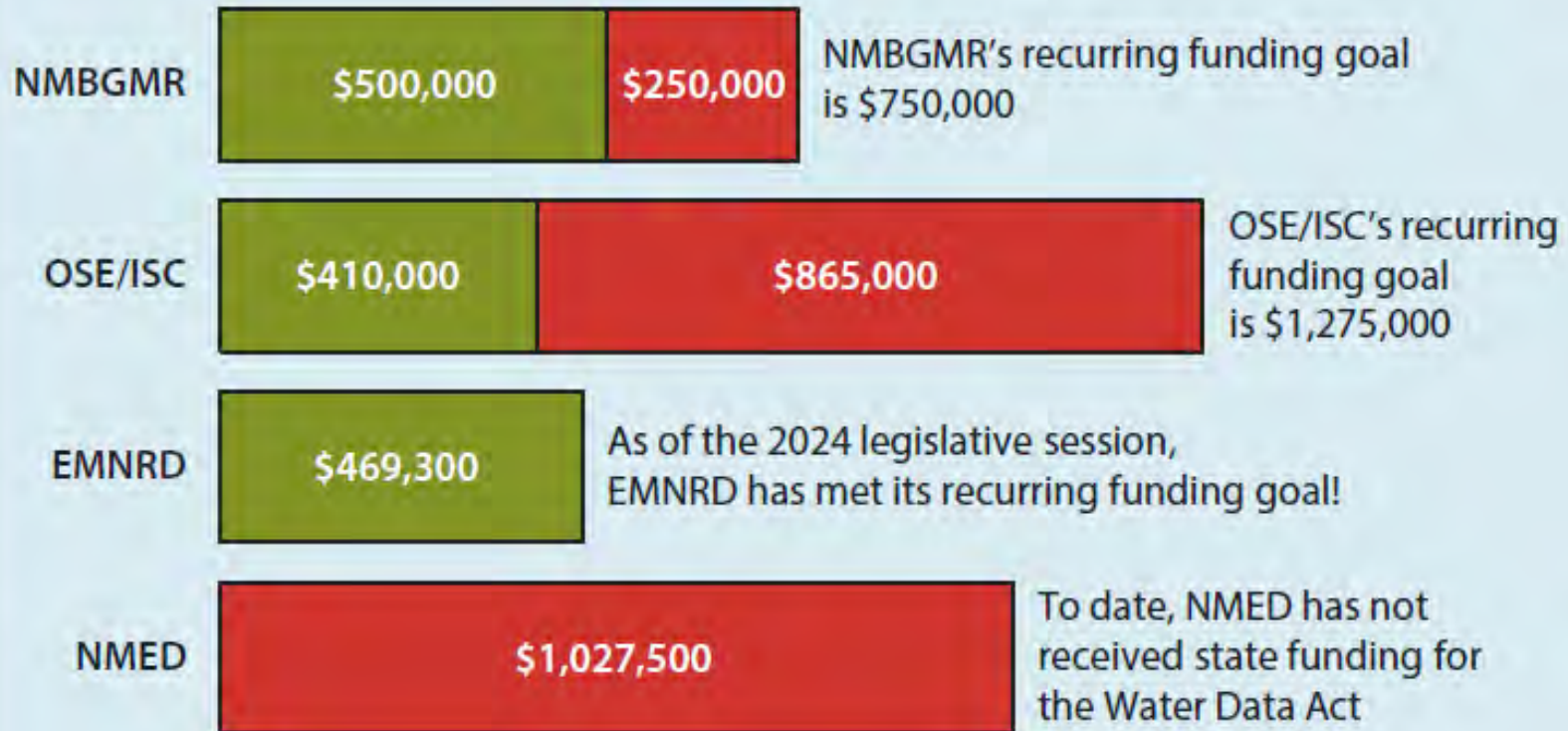- Budgetary resources to carry out the purposes of the Water Data Act.

WATER DATA PLANS: PROVIDED EACH YEAR BY SEPTEMBER 1

https://newmexicowaterdata.org/resources/
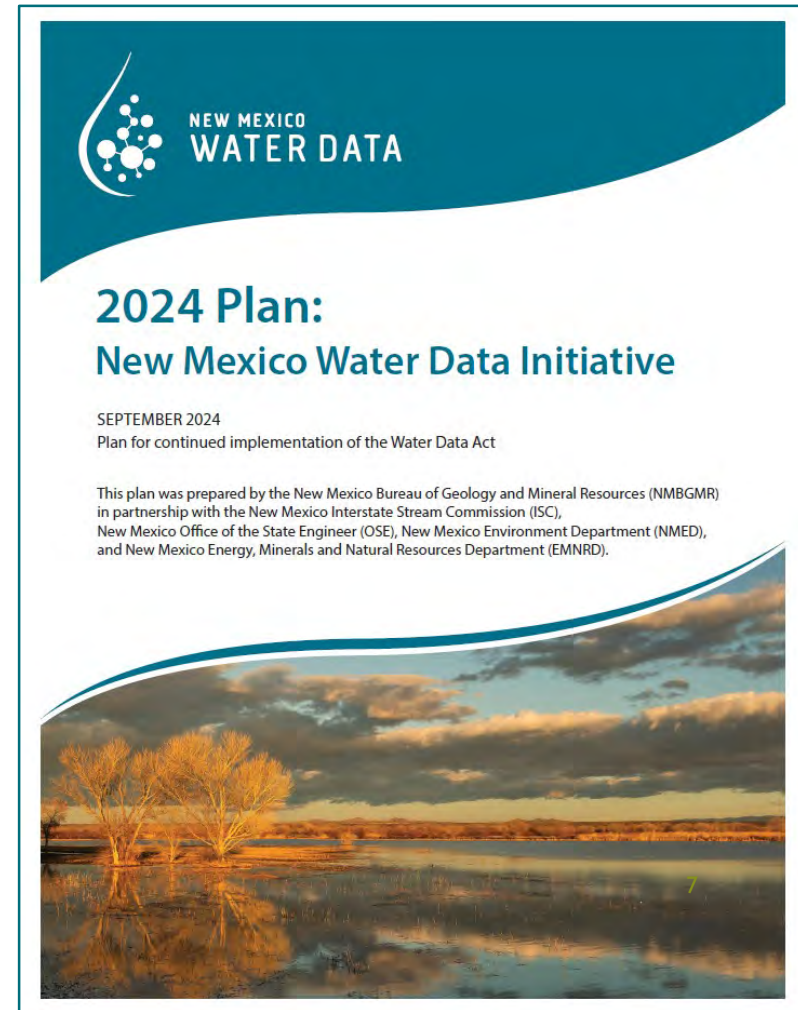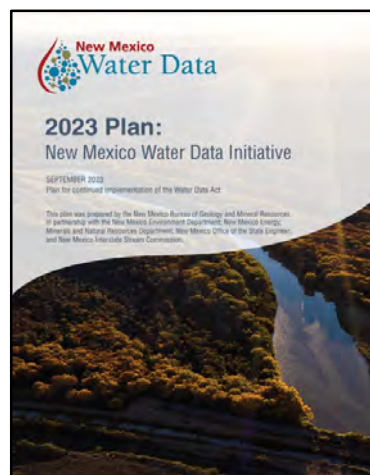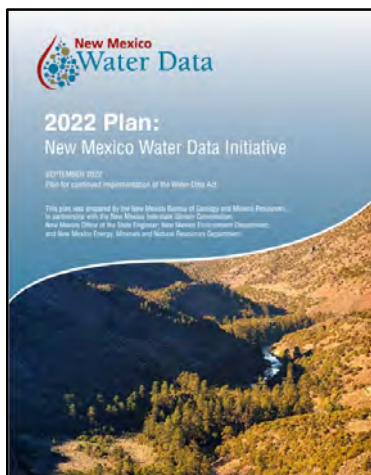
Recurring State Funding Received and Still Needed for Each Water Data Act Directing Agency

NMBGMR
$500,000 | $250,000

NMBGMR's recurring funding goal is $750,000

OSE/ISC
$410,000 | $865,000

OSE/ISC's recurring funding goal is $1,275,000

EMNRD
$469,300

As of the 2024 legislative session, EMNRD has met its recurring funding goal!

NMED
$1,027,500

To date, NMED has not received state funding for the Water Data Act

☐ State Recurring Funding Received to Date
☐ State Recurring Funding Still Needed

NMBGMR

- **Recurring Funding Received: $500,000**
- **FY2026 Recurring Need: $250,000**
  Staffing; hosting and support for data catalog and website; IT contracts and services
- **FY2026 Nonrecurring Need: $100,000**
 *Water Data Workshop and user experience testing*
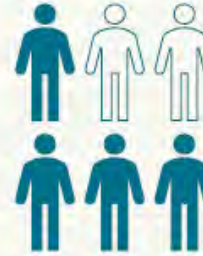
6 FTEs
3 Management and Admin
3 Software Developers
Funding for 4 FTEs acquired

OSE/ISC

- **Recurring Funding Received: $410,000**
- **FY2026 Recurring Need: $865,000**
  Staffing, web hosting services, data integration, database maintenance, software licensing, and data collection
- **FY2026 Nonrecurring Need: $4,000,000**
  Digitizing services, database customizations, and modernization of the WATERS and Real-Time Water Measurement applications
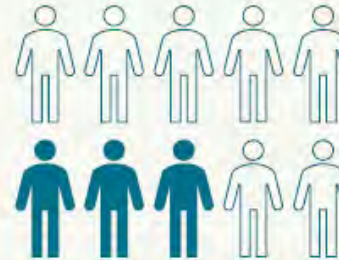
10 FTEs
3 IT
7 Management
**Funding for 3 FTEs acquired in IT section**

EMNRD

- **Recurring Funding Received: $469,300**
- **FY2026 Recurring Need: $0**
- **FY2026 Nonrecurring Need: $0**
  EMNRD has now met its near-term goal for Water Data Initiative funding. In addition to supporting two IT office staff, this funding is supporting IT services, contracts, and licenses.
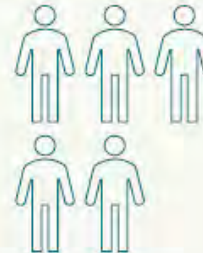
✓ *Funding Achieved!*

2 FTEs
Funding for 2 FTEs acquired in IT office

NMED
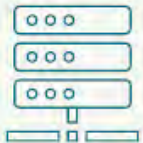
- **FY2026 Recurring Need: $1,027,500**
  Staffing, web hosting, data integration, and database maintenance
- **FY2026 Nonrecurring Need: $1,100,000**
  Database acquisitions, integrations, and digitizing services

5 FTEs
2 IT section
2 Water Protection Division
1 Resource Protection Division

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Governance

DIRECTING AGENCIES TEAM

Agencies in legislation (or directly related) that collect, publish, and maintain data, and will work to integrate data and implement water data standards.

Tasks: Help set goals and metrics, determine priority needs and key data, assist with communications and data inventory in agency, help with reporting.

EXECUTIVE STEERING COMMITTEE

Cabinet secretaries and directors and/or CIOs or lead IT from directing agencies.

Tasks: Periodic check-in on progress, set priorities, provide directives and agency budget.

Convened by NMBGMR

WATER DATA ACT IMPLEMENTATION TEAM

WDI program manager, data integrator, and developers.

Tasks: Provide oversight, convene and organize groups, guide strategy and direction, assist with finance/procurement, coordinate reporting, provide technical support to data providers, help build the WDI infrastructure, and set up data integrations.

TECHNICAL WORKING GROUP

Technical staff or researchers who collect, publish, and maintain data. Research, database, IT, or GIS roles.

Tasks: Promote knowledge sharing between participating agencies, guide development of data standards, help evaluate technical needs/software, help complete data inventory, share and maintain data.

DATA USERS WORKING GROUPS

Stakeholders and data users; may include water planners, water managers, policy makers, and researchers as needed to provide feedback on specific applications.

Tasks: Articulate users' needs, provide recommendations and feedback, develop use case scenarios.

THE WATER DATA INITIATIVE IS INCREASING COORDINATION BETWEEN AGENCIES

- Workshops and meetings
- Technology Adoption Program
- Monthly Technical Working Group
- Attending numerous local, regional and national meetings

NEW MEXICO IS BUILDING DATA LITERACY

Positive terms we're now using

- FAIR
- API
- Standardized
- Metadata
- Automated processes
- Machine readable
- Digital
- Searchable
- Dynamic

Findable   Accessible   Interoperable   Reusable

API Stands for

A → Application

P → Programming

I → Interface

WAYS WE ARE IMPROVING DATA SHARING

DATA CATALOG

Data and metadata are discoverable by listing data on our catalog

Open source and community driven

Starting point for engagement and learning

https://catalog.newmexicowaterdata.org/

The goal:
A federated, open data model where data providers expose / share data in a standardized format that is available for any use

From this – data of similar nature can be combined to build powerful tools and more robust models for data-informed decision making.

FEDERATED DATA MODEL

Data are shared by API, following specific data standards

Applications developed using these robust and dynamic APIs (reusable)

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NM ENVIRONMENT DEPARTMENT WATER DATA IMPROVEMENTS

https://api.env.nm.gov/

- Digitizing paper data
- Developing Water Quality Permitting Application database (fall 2024)

ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT

Energy, Minerals and Natural Resources Department

Water Data Act APIs (NMSA 1978, § 72-4B)

Register Now   Learn More

Welcome to the EMNRD Water Data Act API project.

For improved data service and automation, EMNRD is developing WebAPIs for Coal Mine Water data and Oil Conservation Division's Water data, pending public release by end of 2024

WATER DATA IS BECOMING MORE ACCESSIBLE AT OSE / ISC

https://geospatialdata-ose.opendata.arcgis.com/
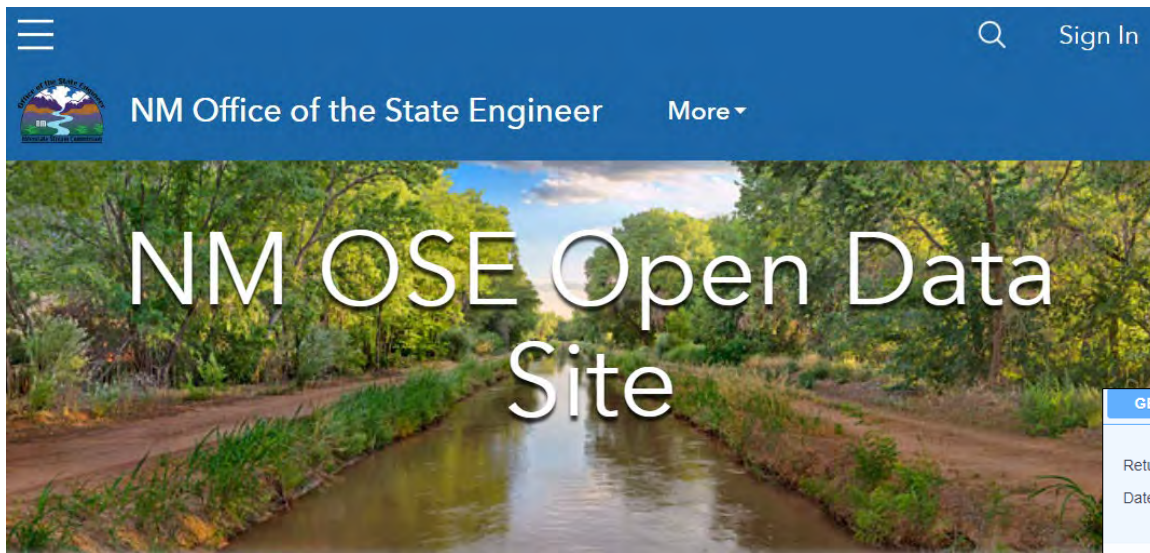
- ESRI Open data portal - adding new Point of Diversion features and improving access by REST API
- Building data exchange APIs between district office and PVACD

GET **/ose_well_history** Get Ose History

Returns activities and meter readings for each OSE well over input date range.

Datetime Format ISO8601: YYYY-MM-DDTHH:MM:SS+HH:MM, example 2023-09-12T00:00:00+00:00

Parameters

Name	Description
start_datetime * required string($date-time) (query)	start_datetime
end_datetime * required string($date-time) (query)	end_datetime

WATER DATA IMPROVEMENTS UNDERWAY AT NM BUREAU OF GEOLOGY

New Mexico Bureau of Geology and Mineral Resources Aquifer Mapping Program API 0.10.0 OAS 3.1

/openapi.json

This API provides access to the Aquifer Mapping Program's groundwater level and water chemistry database.

Data

General

The database is updated on a semi-regular basis with new manually measured depth to groundwater measurements.

Some of the data collected by NMBGMR is private and requires appropriate privileges and authentication for access. All endpoints that begin with /authorized require authentica...

Groundwater Level Data

There are two "types" of groundwater level data: manual measurements and continuous.

Manual Measurements

Manual measurements are taken by field staff typically using a steel tape.

https://waterdata.nmt.edu/

Locations Available locations

GET /locations Get all NMBGMR and publicly available locations

GET /locations/jsonld Get Location JsonId

GET /locations/info Get information about a specific location

GET /locations/nearby Get all publicly available locations within a distance of a specific Location

GET /locations/sitemetadata/usgs Get USGS site metadata for a specific location

GET /locations/sitemetadata/ose Get OSE site metadata for a specific location

GET /wells Get Well

GET /wells/screens Get Screens

Groundwater Levels Available groundwater levels

GET /waterlevels/daily Get Waterlevels Daily

GET /waterlevels Get Waterlevels

GET /waterlevels/trend Get Waterlevels Trend

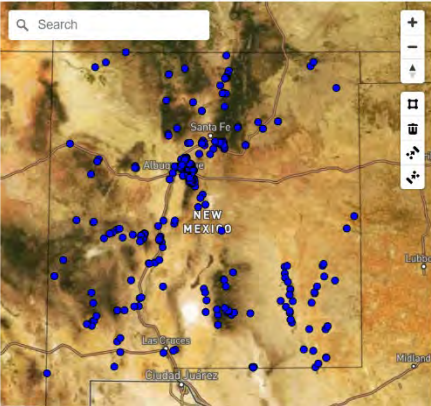GET /waterlevels/trends Get Waterlevels Trends

- Developing integrated datasets
- Numerous regional data projects

NEW MEXICO WATER DATA INITIATIVE THANKS FOR YOUR SUPPORT

- Staff contribution and management support at OSE, ISC, NMED, EMNRD, NMBGMR and NMT
- Contributions from numerous data providers - local, regional, and water management districts
- Funding from State of New Mexico, U.S. Bureau of Reclamation (WaterSMART), Healy Foundation, Thornburg Foundation and Water Foundation
- Collaboration from Internet of Water Coalition, Sandia National Laboratories, Datacequia, Sol Web Solutions, Wellntel, and Moxiecran Media

NEWMEXICOWATERDATA.ORG