

Implementation of the NM Water Data Initiative

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Water Data Act (NMSA 1978, § 72-4B)

- Enacted in 2019, from House Bill 651
- NM agencies will **share**, **integrate**, and **manage** our water data
 - Bureau of Geology & Mineral Resources (NMBGMR)
 - Interstate Stream Commission (ISC)
 - Office of State Engineer (OSE)
 - Environment Department (NMED)
 - Energy, Minerals & Natural Resources (EMNRD)

Let's make finding water data SIMPLE.



Growing support and building connections

- Legislative annual funding \$110,000 at NM Tech / NMBGMR
- Philanthropic contributions of \$25,000 from Healy Foundation
- NM becomes a Pilot with Internet of Water project at Duke University
- **New!** Leveraging state funding for additional \$300,000 in federal funds under new US BOR WaterSMART grant (data project in Lower Pecos River region)



NEWMEXICOWATERDATA.ORG

- Inventory of data and information sources now linked online
- Launched initial Water Data Service – CKAN as our data catalog



81 datasets found

Order by: Relevance

NMSU Water Resources Research Institute Statewide Water Assessment

WRRRI's Statewide Water Assessment is an effort that will complement existing state agency water resource assessments. It will provide new, dynamic (updated frequently),...

HTML

USDA NRCS Historical Monthly Snowpack Data

Monthly snowpack data for all SNOTEL and SNOW network stations in New Mexico from 1950 to the present from the Natural Resources Conservation Service...

CSV XLSX

USDA NRCS Precipitation Data

New Mexico current and historic precipitation data, plus snow and weather forecasts...

HTML

News

News

Check in here for news, updates, reports and other links!

- Water data Update for January 1, 2020
- Water Data Workshop: Full Summary
- Water Data Workshop: Short Summary Graphic

Re-construction underway

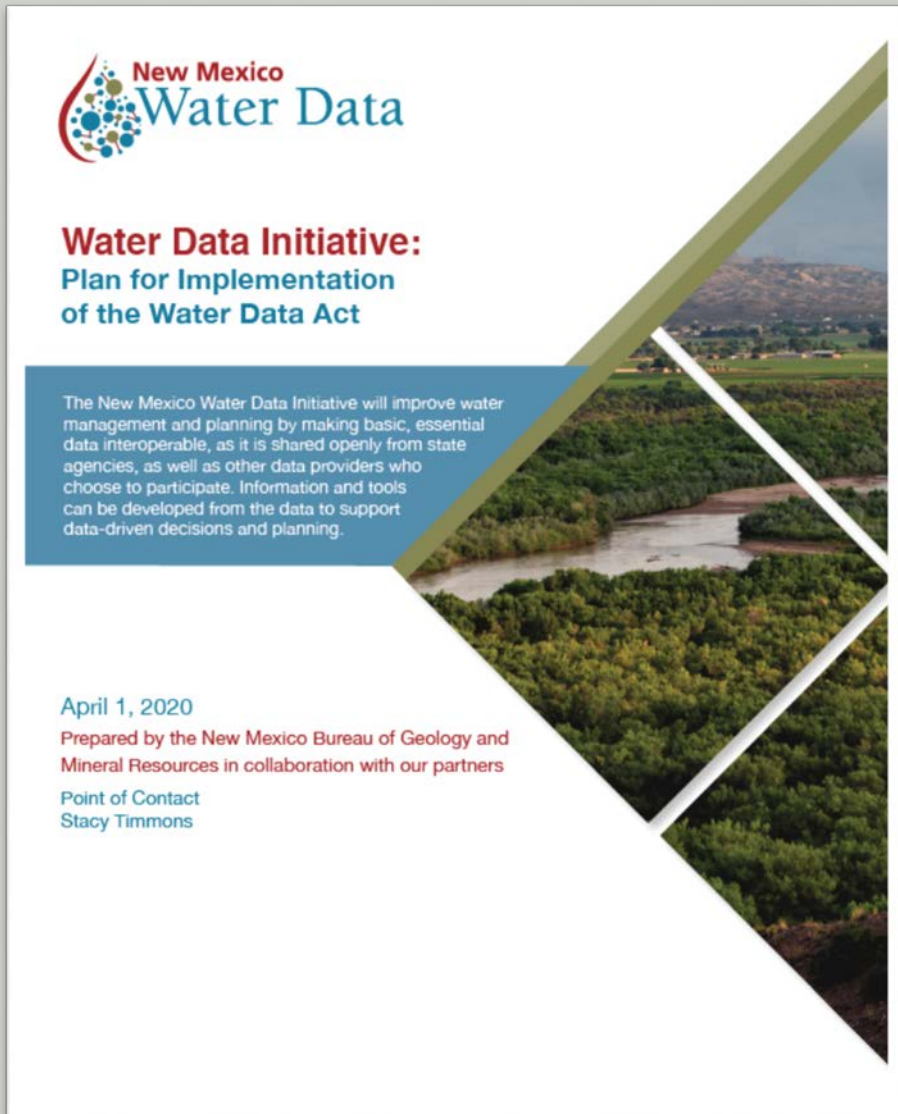
Focus on integrating “key water data”

	Key Water Data	State sources	Federal source	Other
Surface water	Evaporation / Evapotranspiration~	10	2	
	Soil Moisture	5	4	
	Precipitation	12	9	1
	Ecosystem health / biological health	8	6	
	Surface water location	4	2	
	Surface water flow (river or conveyance)~	32	8	3
Groundwater	Well locations	5	2	2
	Well depths	5	1	2
	Groundwater levels	19	5	2
	Aquifer parameters	7	1	
	Aquifer or geologic formation	13	1	
Groundwater and surface water	Permit for use (type)*~	24	2	1
	Permit for use (quantity)*	20		1
	Measured diversions / extraction~	1	2	2
	Water in storage^	14	3	1
	Water return / injection~	NA	NA	NA
	Water quality	22	8	1

* Related to water rights ~ Related to water use also ^ Reservoir, tanks or managed recharge

"Other" refers to datasets provided by local data providers such as irrigation districts, municipalities or community-scale projects.

Recently completed: Plan for Implementation



GOALS FOR THIS YEAR

- 1. Provide IT support to improve data sharing**
 - IT support team currently testing API proxy option with NMED
- 2. Develop robust IT and data infrastructure plan**
 - Demo App developed and tested with water level data
- 3. Refine data standards**
 - Activities of Technical Working Group
- 4. Continue stakeholder engagement opportunities**
 - Use case development

General Process

1. Agencies collect, maintain and host data
 - Only share data when ready / QC'ed
 - Align with data standards as much as possible
2. Share data: Work with WDI support team to connect to cloud based CKAN
3. Integrate data: WDI support team help build transformations
3. Public access to data: Data available to build tools, analytics, or download and use through web interface



NMOSE/ISC Water Data Overview



- Rolf Schmidt-Petersen
 - Director,
- NM Interstate Stream Commission

NM Water Use By Category Data

The NM Office of the State Engineer has compiled water use data for the State every five years since 1975 and produced reports. Water withdrawals in New Mexico counties and river basins are tabulated for the following nine water use categories:

- Public Water Supply
- Self-Supplied Domestic
- Irrigated Agriculture
- Self-Supplied Livestock
- Self-Supplied Commercial
- Self-Supplied Industrial
- Self-Supplied Mining
- Self-Supplied Power
- Reservoir Evaporation



Water Use Data Available To The Public

- NMOSE's Website
 - https://www.ose.state.nm.us/WUC/wuc_waterUseData.php
- New Mexico Water Data Initiative Portal
 - <https://newmexicowaterdata.org/dataset/water-use>
- Public request via phone or email

Water Use Data Available on NM Water Data Initiative Portal

- 2015 Water Use Report

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Organization



NM Office of the State Engineer

The Office of the State Engineer is charged with administering the state's water resources. The State Engineer has authority over the supervision, measurement, appropriation,... [read more](#)

Social

Twitter

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Water Use Report 2015

New Mexico Water Use by Categories 2015

Data and Resources

 **Water Use 2015**
2015 Water Use Report Data

[More information](#) [Download](#)

 **Metadata**
Metadata and Disclaimer

[More information](#) [Download](#)

[2015](#) [NM Office of the St...](#) [NMOSE](#) [OSE](#) [Report](#) [Water Use](#)

Additional Info

Field	Value
Last Updated	December 5, 2019, 12:30 PM (UTC-07:00)
Created	December 5, 2019, 12:24 PM (UTC-07:00)
Known uses of data	The data provided from the New Mexico Water Use by Categories 2015 report is furnished by the Office of the State Engineer (OSE) and may be subject to potential errors. The data is accepted for use by the recipient, individual, or entity with the expressed understanding that the OSE and author(s) of the data make no warranties, expressed or implied, concerning the accuracy,

Water Use Data Available on NMOSE's Website

- Summary Data sets from 1990-2015
 - County Level
 - River Basin

Summary of withdrawals in acre-feet in the Rio Grande River Basin, New Mexico, 2015.

RVB	CATEGORY	WSW	WGW	TW
RG	Commercial (self-supplied)	903	36,731	37,634
RG	Domestic (self-supplied)		17,783	17,783
RG	Industrial (self-supplied)	0	4,839	4,839
RG	Irrigated Agriculture	614,794	415,079	1,029,873
RG	Livestock (self-supplied)	820	7,091	7,911
RG	Mining (self-supplied)	1,079	16,662	17,740
RG	Power (self-supplied)	0	6,271	6,271
RG	Public Water Supply	61,947	133,265	195,212
RG	Reservoir Evaporation	122,486	0	122,486
River Basin Totals		802,029	637,720	1,439,749

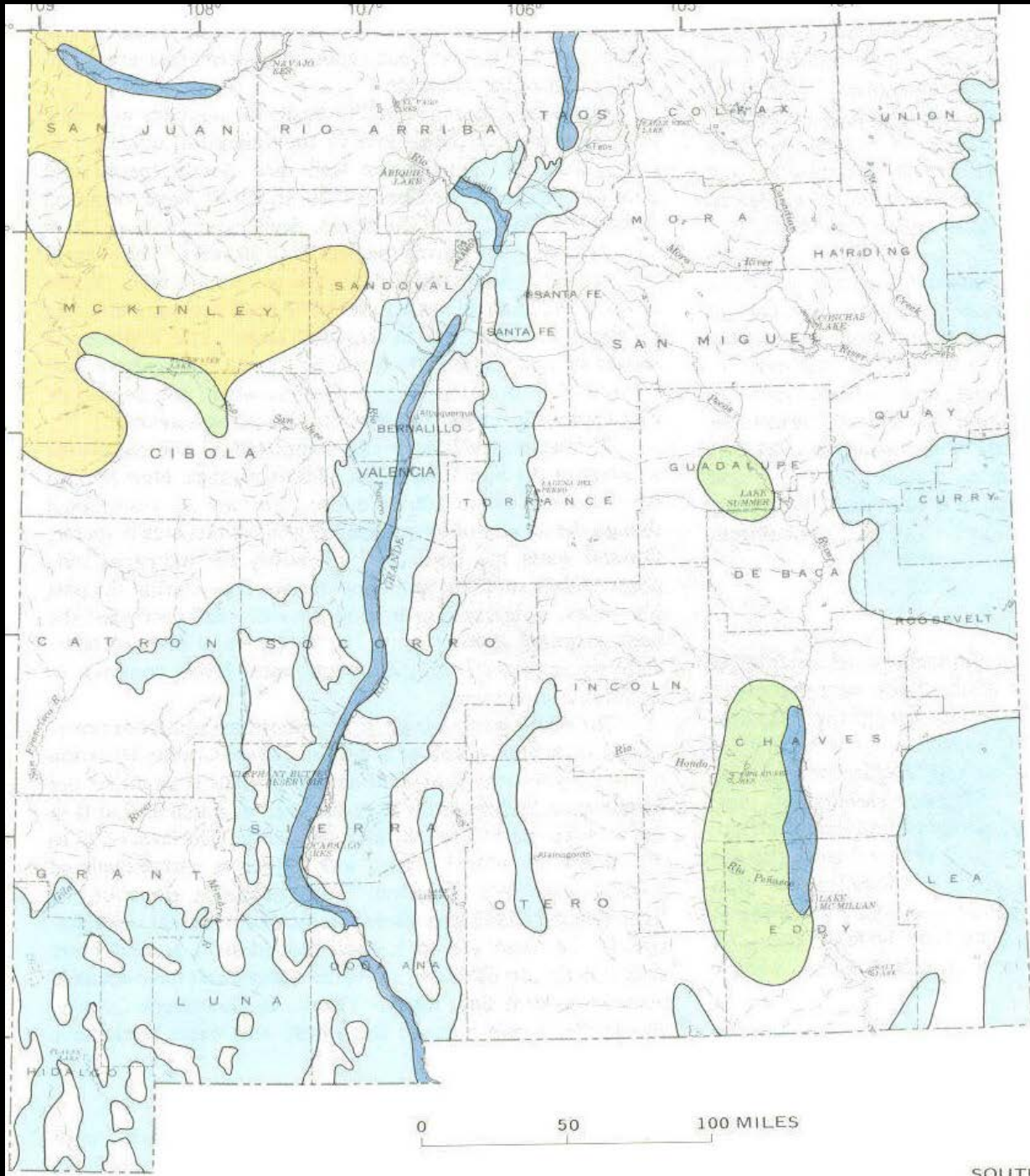
Key: CN=county number; WSW=withdrawal, surface water; WGW=withdrawal ground water; TW=total withdrawal.

Upper Colorado Basin Water Use in New Mexico: San Juan Basin



Multiple NM Uses:

- Farming
- Irrigation Projects
- Conservancy Districts
- Community Ditches
- Cities
- Large M&I Projects
 - Animas-La Plata
 - Navajo Gallup
- Power Plants
- Transmountain Diversions
- Reservoir evaporation
- Endangered Species
- Water Operations
- Limited Groundwater and Groundwater use
- To Tribes with Water Settlements In-place.



Groundwater aquifers with significant available water in storage are very limited in the San Juan Basin.

San Juan Basin River and Reservoir Data

River Flow Data (multiple locations):

- San Juan River
- Animas River
- La Plata River

Reservoir Data:

- Navajo Reservoir
- Lake Nighthorse
- various other much smaller reservoirs

Irrigation Ditch Diversions

- All Non-Tribal ditches gaged

RiverWare Model databases contain, or will soon contain, much of this data

San Juan Basin Annual Agricultural and Domestic Water Use

The Colorado River Compact and the Upper Colorado River Basin Compact apportion water between basins and states based on consumptive use amounts. This applies to the San Juan River Basin in New Mexico.

Though the compacts do not require the states themselves to calculate and report their consumptive uses, the NMISC estimates consumptive uses annually for planning and compact management purposes.

This work includes annual crop surveys for the past fifteen years and the compilation of water data from the Office of the State Engineer, the Bureau of Reclamation, the Bureau of Indian Affairs, the Navajo Nation, the National Agricultural Statistics Service, the National Centers for Environmental Information, and other sources.



Navajo Dam and Reservoir



Navajo Indian Irrigation Project



Navajo Gallup Water Supply Project



Water-Energy Nexus

San Juan Basin Annual Agricultural and Domestic Use

When the consumptive use data are substantially complete for a particular year, ISC staff share these estimates with Reclamation in an effort to assist with Reclamation's consumptive uses and losses reports. These estimates are also provided to the NMOSE Water Use and Conservation Bureau for their uses.

The information we provide Reclamation are available at <https://www.usbr.gov/uc/envdocs/plans.html> and will be described at this Workshop by Jim Prairie.

New Mexico Water Data for Species and Habitats

- Biota Information System of New Mexico (BISON-M) provides information on the legal status and biology of thousands of wildlife species found in New Mexico.
<http://www.wildlife.state.nm.us/conservation/bison-m/>
- New Mexico Conservation Information System (NMCIS) provides data for over 600 rare or endangered plant or animal species, tools for conservation and project planning, and statewide conservation plans. <https://nhnm.unm.edu/data>
- New Mexico Environmental Review Tool (ERT) an interactive tool for conservation planning and review of important resources for wildlife and habitats. <https://nmert.org/>
- New Mexico Crucial Habitat Assessment Tool (CHAT) is an online planning tool that displays crucial habitat across New Mexico. <http://nmchat.org/>
- United States Fish and Wildlife Service's (USFWS) Information, Planning, and Conservation System (IPaC) can be used to show data for federally threatened and endangered species, critical habitat, and wildlife refuges in New Mexico.
<https://ecos.fws.gov/ipac/>
- USFWS National Wetlands Inventory (NWI) and Wetlands Mapper provides detailed information on the abundance, characteristics, and distribution of US wetlands, including those in New Mexico. <https://www.fws.gov/wetlands/data/Mapper.html>

Ecosystems and Wildlife Data on newmexicowaterdata.org

- Currently 3 datasets uploaded
 - New Mexico Energy, Minerals, and Natural Resources Department Watersheds GIS Maps and Data
 - New Mexico Department of Game and Fish Native Fish Monitoring Data
 - New Mexico Division of Forestry Forest Treatments Maps
- Unknown if additional data will be uploaded

Lower Colorado River Basin Annual Water Use in New Mexico

The 1964 Arizona v. California Decree requires the State of New Mexico to annually prepare records of the irrigated acreages and the diversions and consumptive uses of water in the Gila River Basin in New Mexico.

The NMISC collects data from various sources and develops the required records.

These records are available for inspection at the New Mexico Interstate Stream Commission offices in Santa Fe. The ISC posts data from recent years at

https://www.ose.state.nm.us/Basins/Colorado/isc_Gila.php