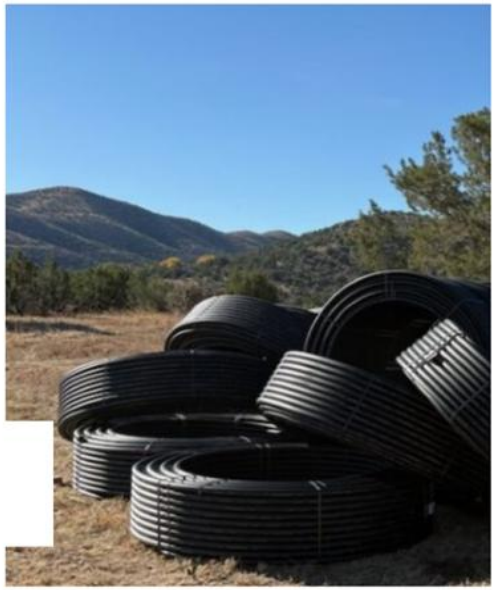

New Mexico Water Resources Research Institute Agricultural Water Resilience Program

Presented by Kirsten Holles, Program Manager and Ahmed Mashaly, Research Scientist

Interim Water and Natural Resources Committee

Monday, September 28, 2026

Taos, NM

NEW MEXICO WATER RESOURCES RESEARCH INSTITUTE

NM STATE UNIVERSITY

NM WRRI History & Mission

The New Mexico Water Resources Research Institute (NM WRRI) at New Mexico State University (NMSU) was established by the New Mexico Legislature in 1963.

NM WRRI's mission is to develop and disseminate knowledge that will assist the state and nation in solving water problems.

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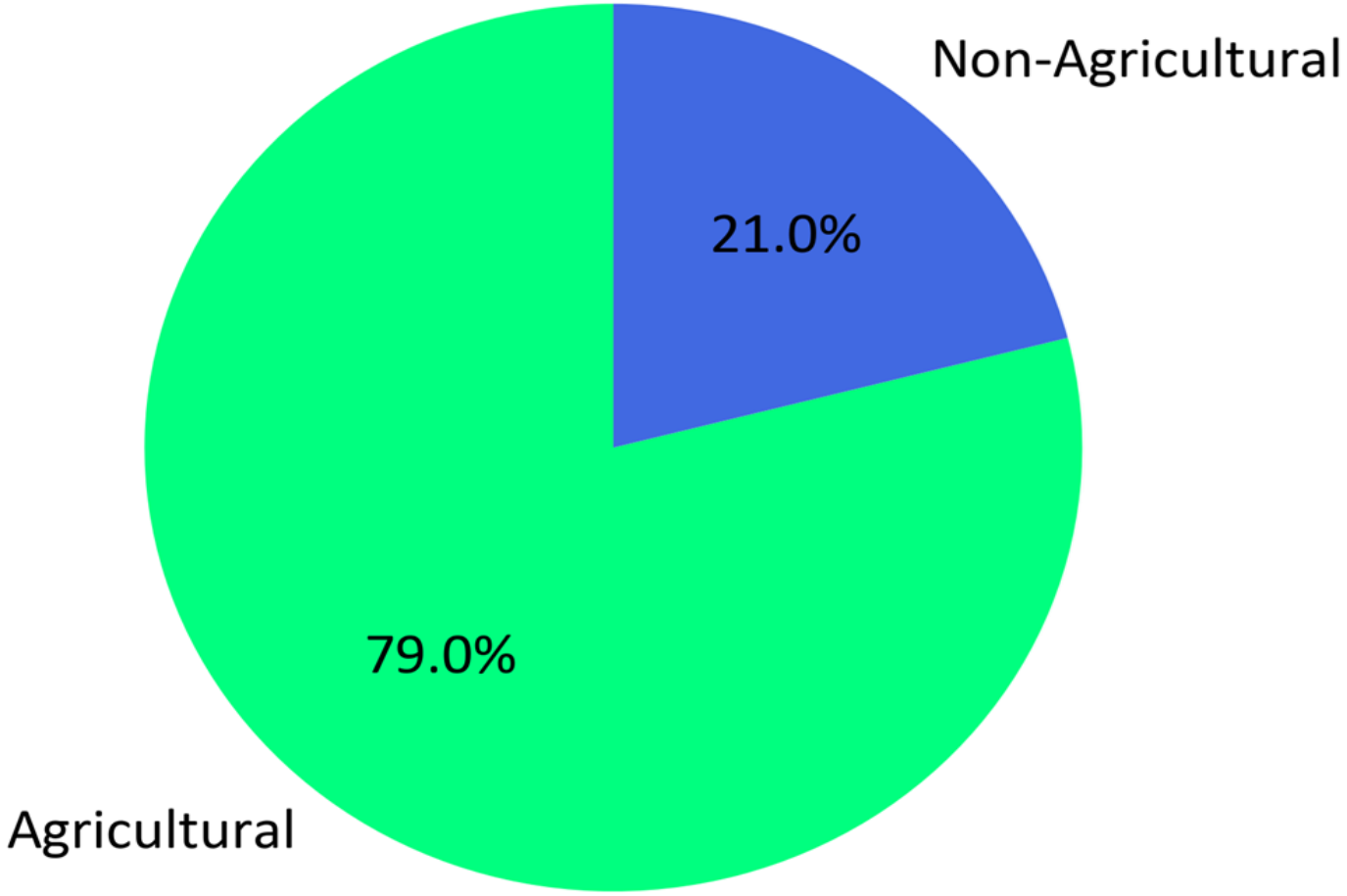
Water Use by Agriculture in New Mexico

Agriculture is the largest water user in New Mexico.

The agricultural sector plays a critical role in the state's economy and resource management.

There are nearly 25,000 commercial farms and ranches in New Mexico.



2020 New Mexico's Water Withdrawals
Published by NM OSE (Valdez et al., 2024)

Valdez, J., Harms, P., Nelson M., Gagnon, A. 2024. New Mexico Water Use by Categories 2020. New Mexico State Engineer: Santa Fe. NM, USA.

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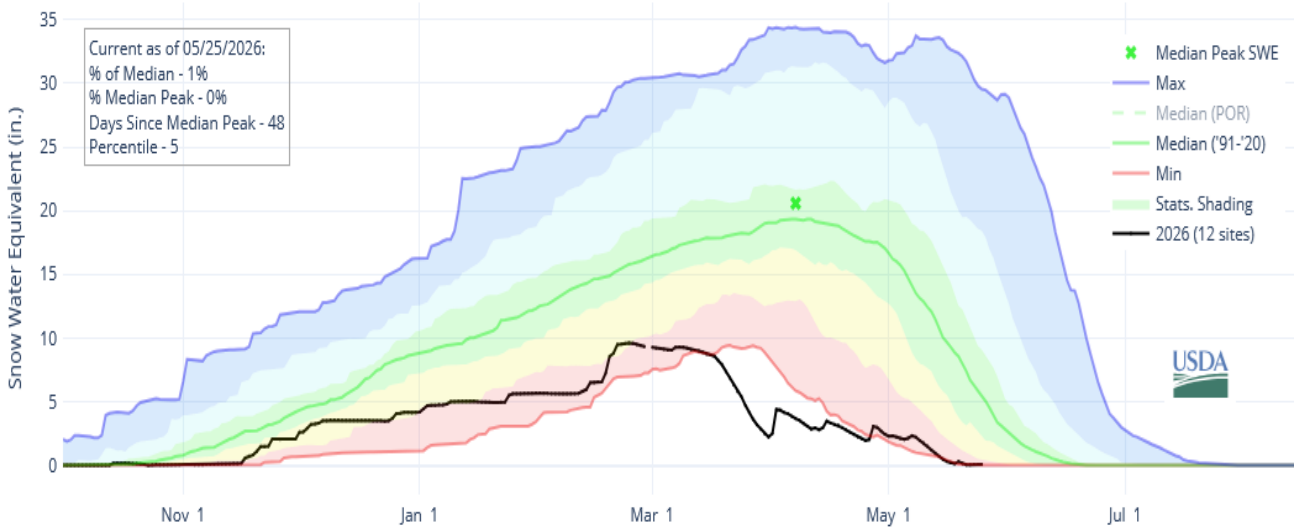
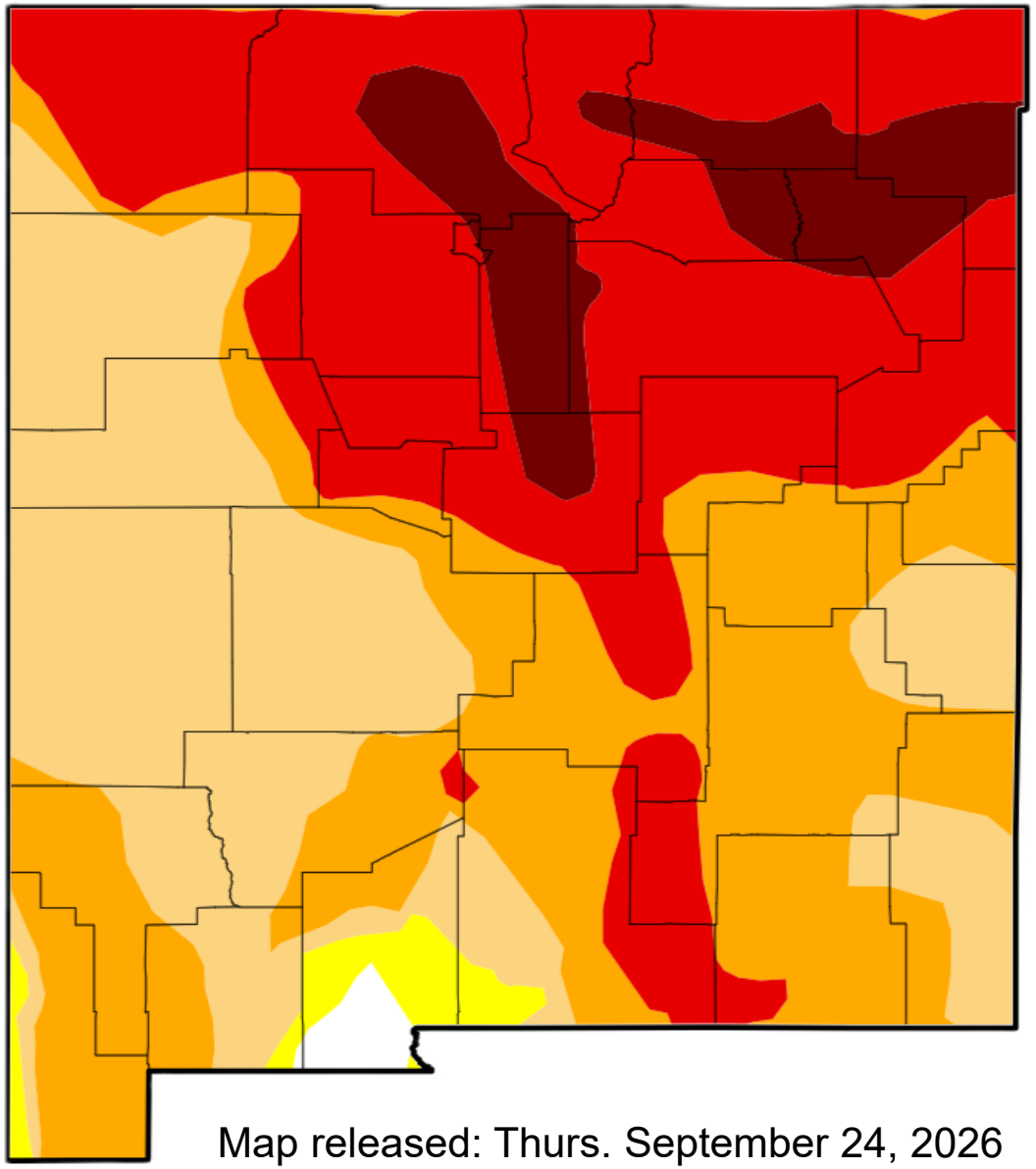
Drought in New Mexico

According to the U.S. Drought Monitor (USDM), 99.2% of New Mexico's land area and about 2 million residents are currently affected by drought conditions.

In April 2026, Snow Water Equivalent in the San Juan Basin headwaters was the lowest ever recorded.





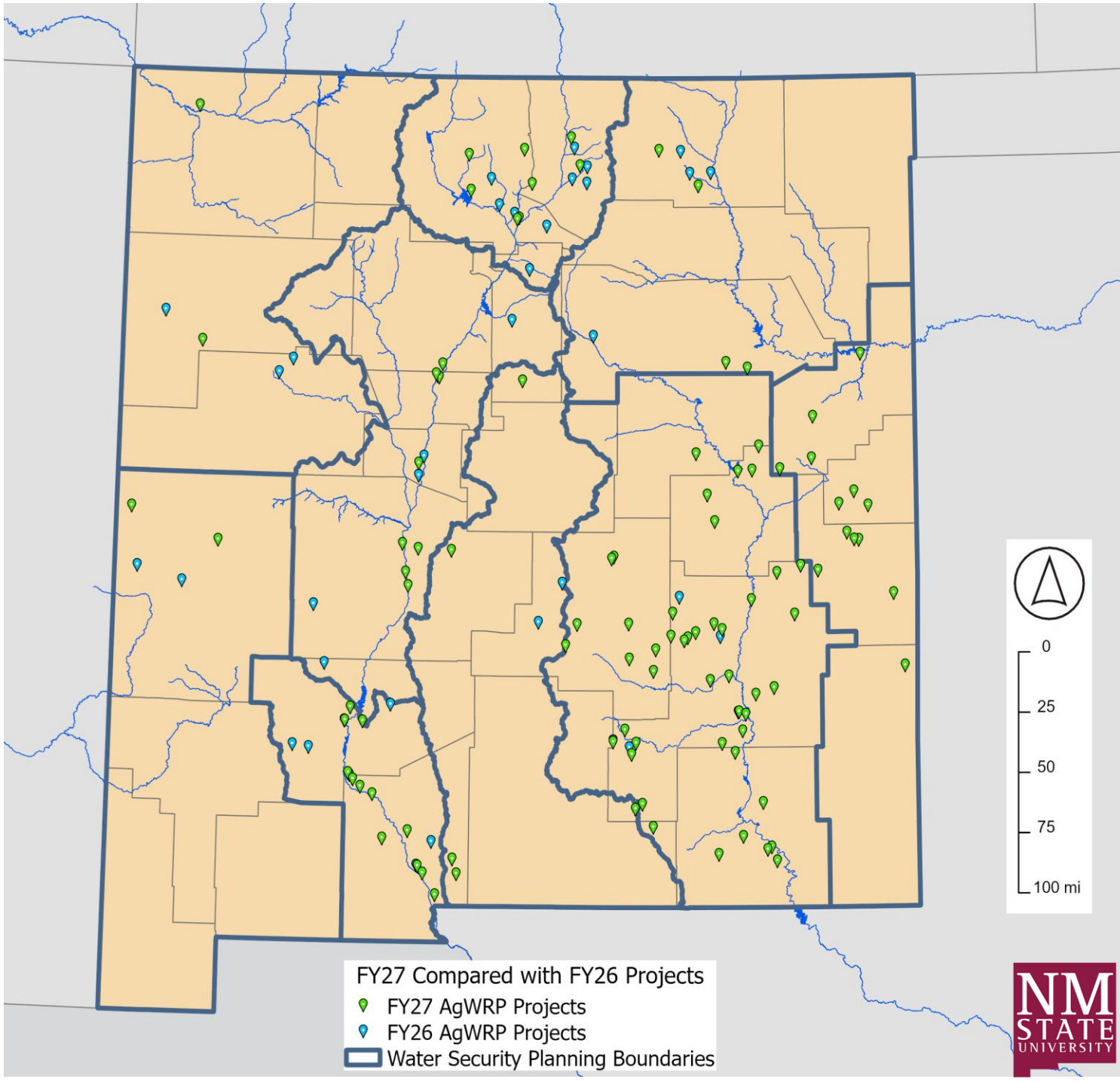
Map released: Thurs. September 24, 2026

Agricultural Water Resilience Program (AgWRP)

The New Mexico AgWRP implements HB 2 (302) “For grants to implement projects that improve farmers' and ranchers' ability to manage, save and efficiently apply limited water resources for agricultural production.”

AgWRP Funded Projects

Main Categories
Acequia & Watershed Restoration
Evaporation Reduction Systems
Smart Precision Irrigation Systems
Water Distribution and Delivery Systems
Solar Well Pumping Systems



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AgWRP Funding Overview

	FY 26	FY 27
Total Legislative Funding	$5,000,000	$10,000,000
Number of Applications	61	159
Funding Request	$8,600,000	$22,400,000
Number of Projects Awarded	41	80 + 2 w/ ONRT
Max Award per project	$250,000	$300,000
Number of Entities Funded	20	29
Number of Counties	15	22

Our Goals & Objectives

❑ Report to Legislature and Stakeholders

- AgWRP Projects [Applications & Awards, Funding Requested, Project Types & Counts, Counties & Funded Entities, etc.]
- Performance Metrics [Water Savings, Farms and Ranchers Benefited, Watersheds Impacted, Agricultural Acreage (Acres)]

❑ Conduct Research

- Water Impact Assessment
  - Collect and integrate Real Data.
  - Quantify Impacts.
- Cutting-Edge Agricultural Water Management Tool.
  - Multiscale Decision-Making Support.
  - Information Integration and Scenario Analysis.

FY26 AgWRP Performance Metrics (estimated based on project proposals)

Projected Amount of Water Saved (Gallons/yr and **AF/yr**)	938,032,591	**2,878**
Number of Farms & Ranches Benefited	59	
Agricultural Acreage (Acres)	457,501	
Number of Major Watersheds Impacted	7	
Number of HUC-8 Watersheds Impacted	To be determined	

The projected amount of water saved is estimated from applications, will be verified by reports, and finally confirmed with field measurements.

WATER IMPACT ASSESSMENT (WIA)
Measure & Quantify Impact

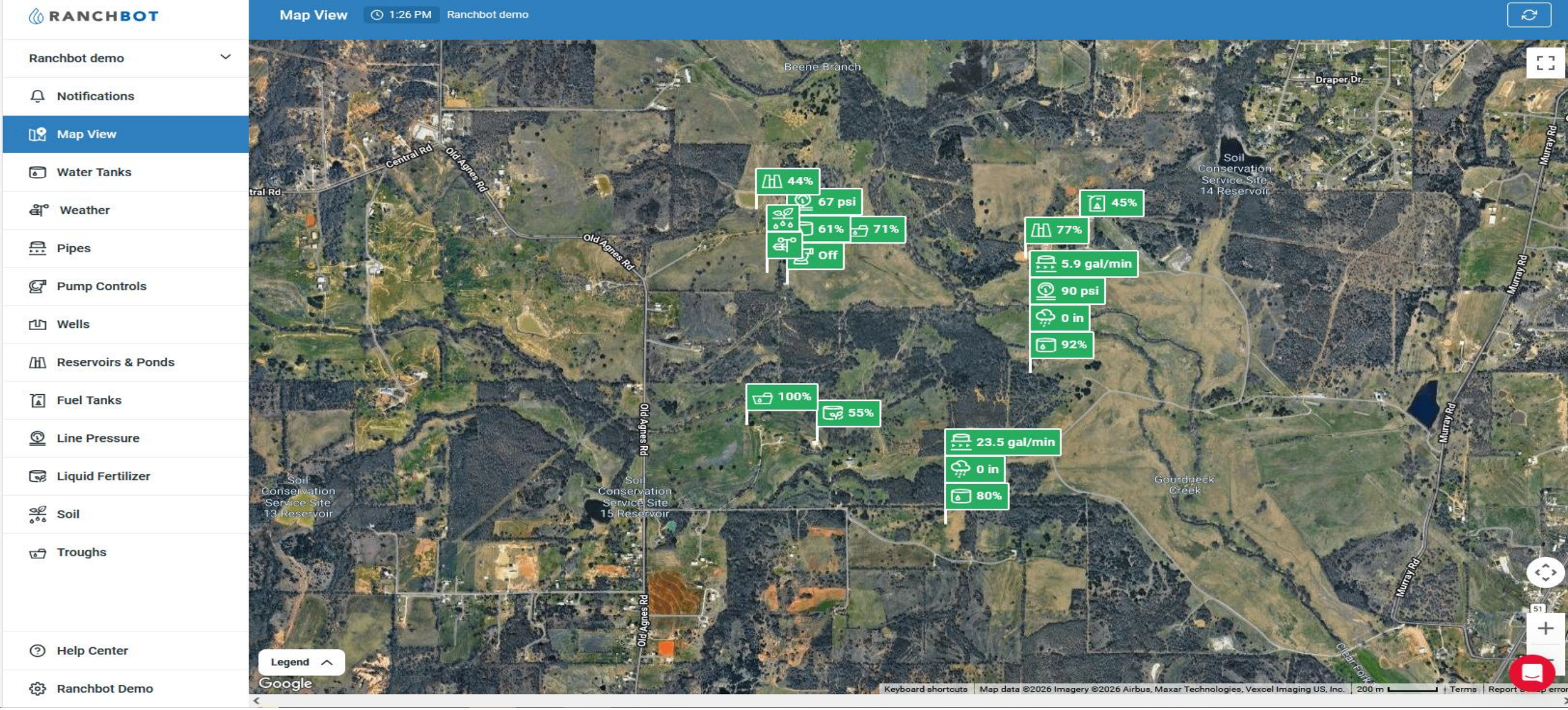
REAL-WORLD DATA

Field monitoring + observations feed the WIA

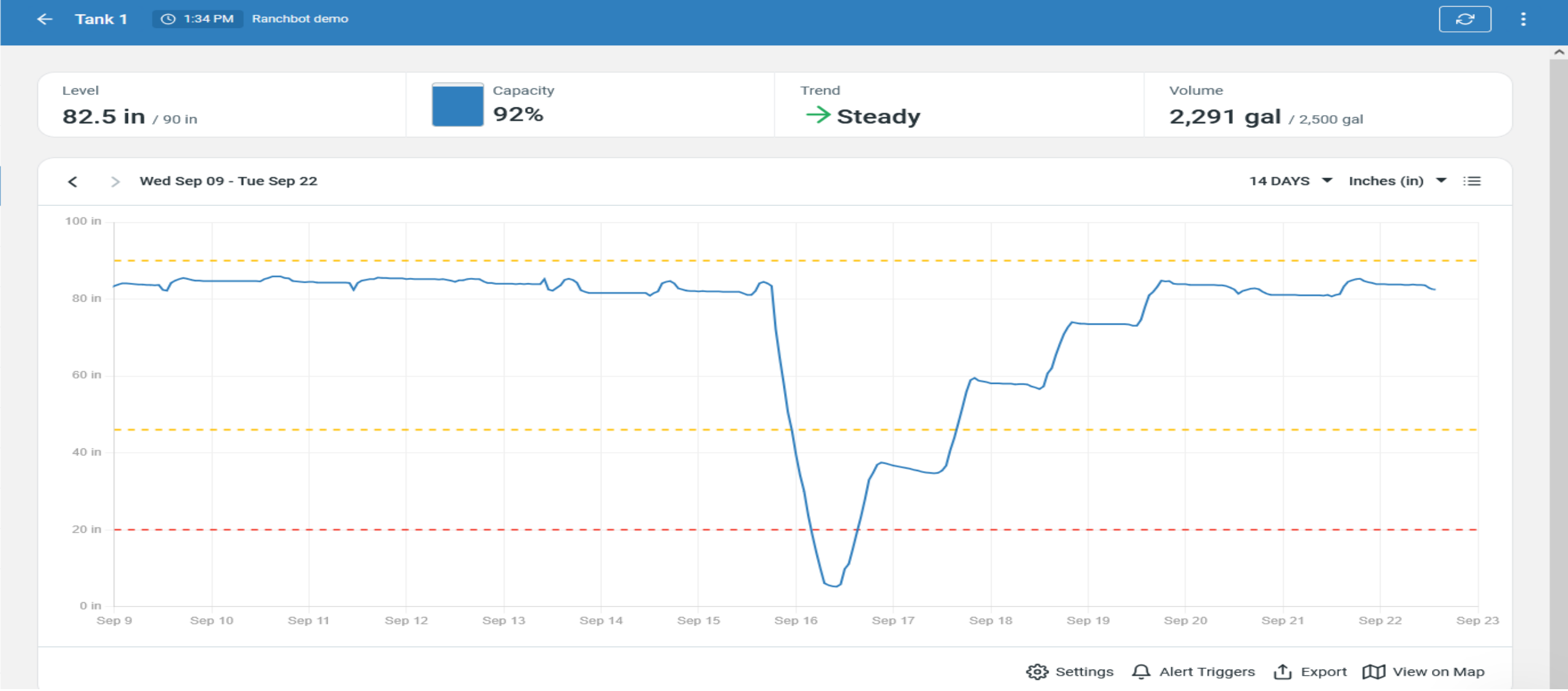
Data Types

Streaming Data

These data include water storage tank and trough levels, tank volume and capacity, water level trends, water flow, line pressure, well water levels, rainfall, temperature, solar radiation, wind, relative humidity, and pump operation.

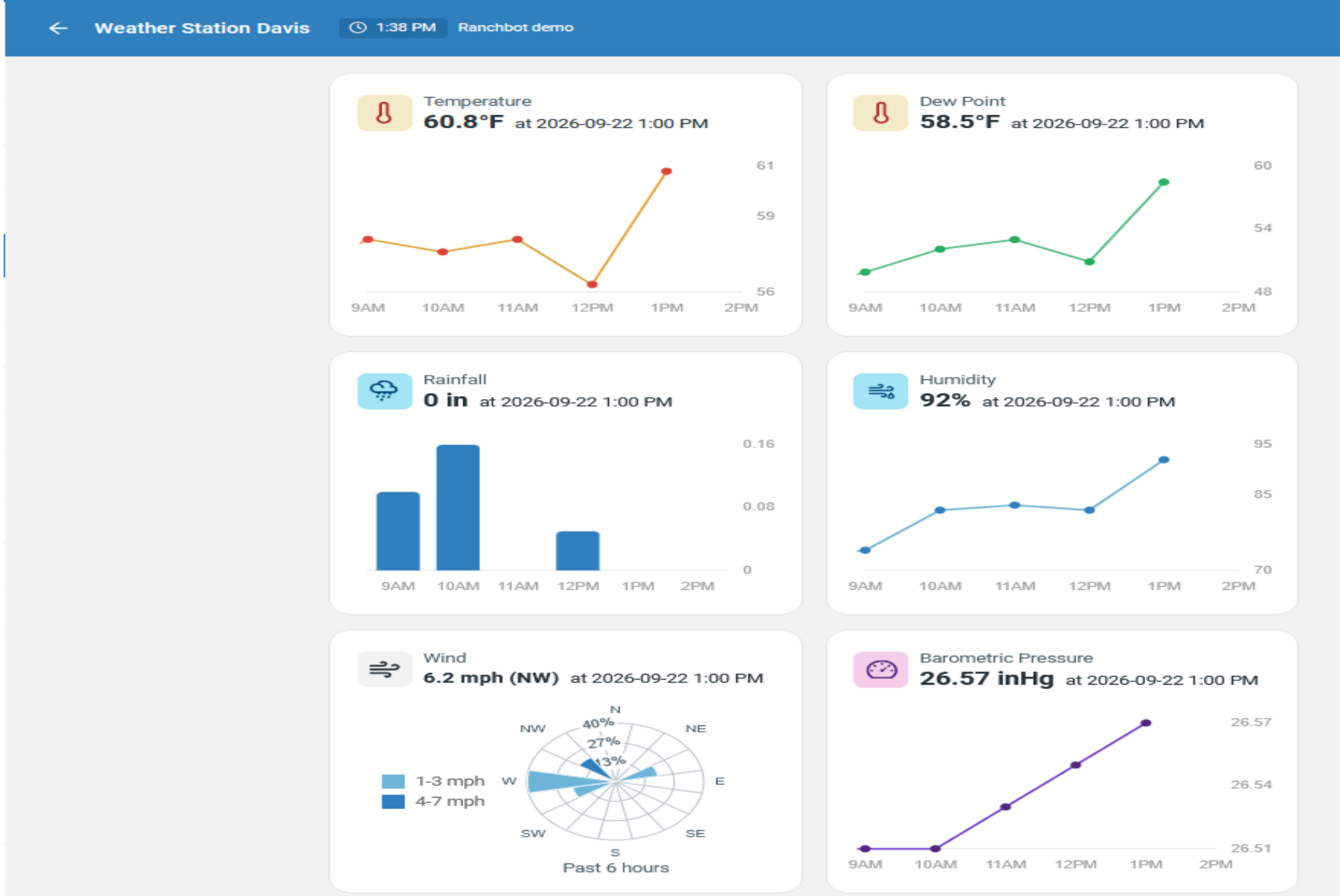


An interactive ranch management map displaying real-time monitoring data for water tanks, stock tanks, troughs, pumps, wells, and other ranch data.



Real-time water tank monitoring dashboard displaying tank level, capacity, volume, trends, and historical data.

Real-time weather station dashboard displaying temperature, dew point, rainfall, humidity, wind, barometric pressure, and other weather data.

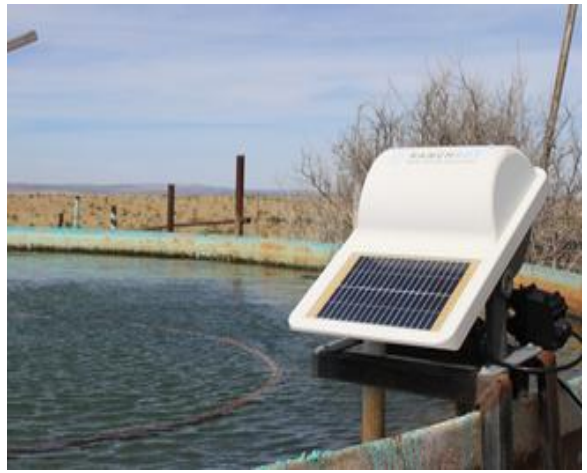


Water Impact Assessment (WIA) Instrumentation

Multi-Depth Soil Moisture Sensor

Weather Station

Water Tank Level Monitor



Data Logger

Water Trough Monitoring Systems

Examples of Instruments

- Flow Meters
- Water Level Sensors
- Pressure Transducers
- Rain Gauge
- Weather Station
- Data Loggers
- Soil Sensors
- Battery and Solar Panels

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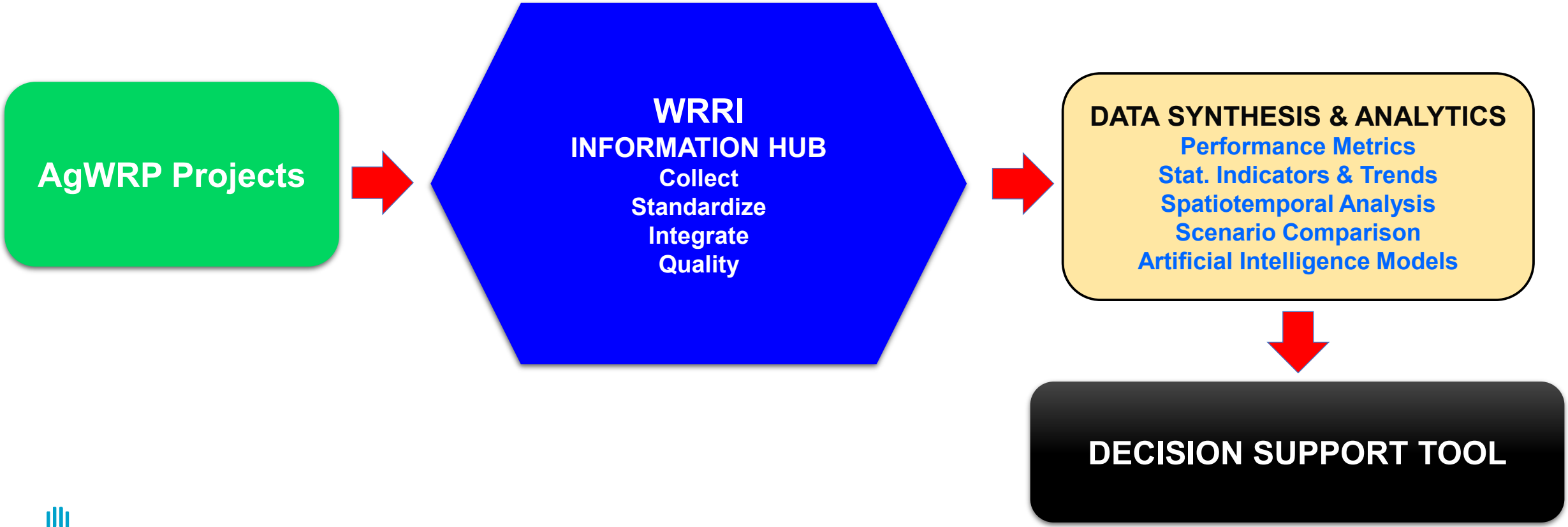
External Data Sources

- NASA NLDAS-3
- USGS
- OpenET
- NM Water Data Initiative

Ongoing Research (Decision Support Tool for Ag Water Management)

A conceptual framework for integrating project data, synthesizing information, and supporting water-management decisions.



Key Takeaway

Investing in and funding agricultural water projects today help farmers and ranchers build a more resilient and sustainable agricultural future, preserve water resources, and ensure food and water security for future generations.






Thank you!

https://nmwrri.nmsu.edu/nmwrri-agwrp/nmwrri-agwrp.html

Additional Information

ORGANIZATIONAL STRUCTURE

NM WRRI – Agricultural Water Resilience Program

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Assistant Director, NM WRRI Program Operations

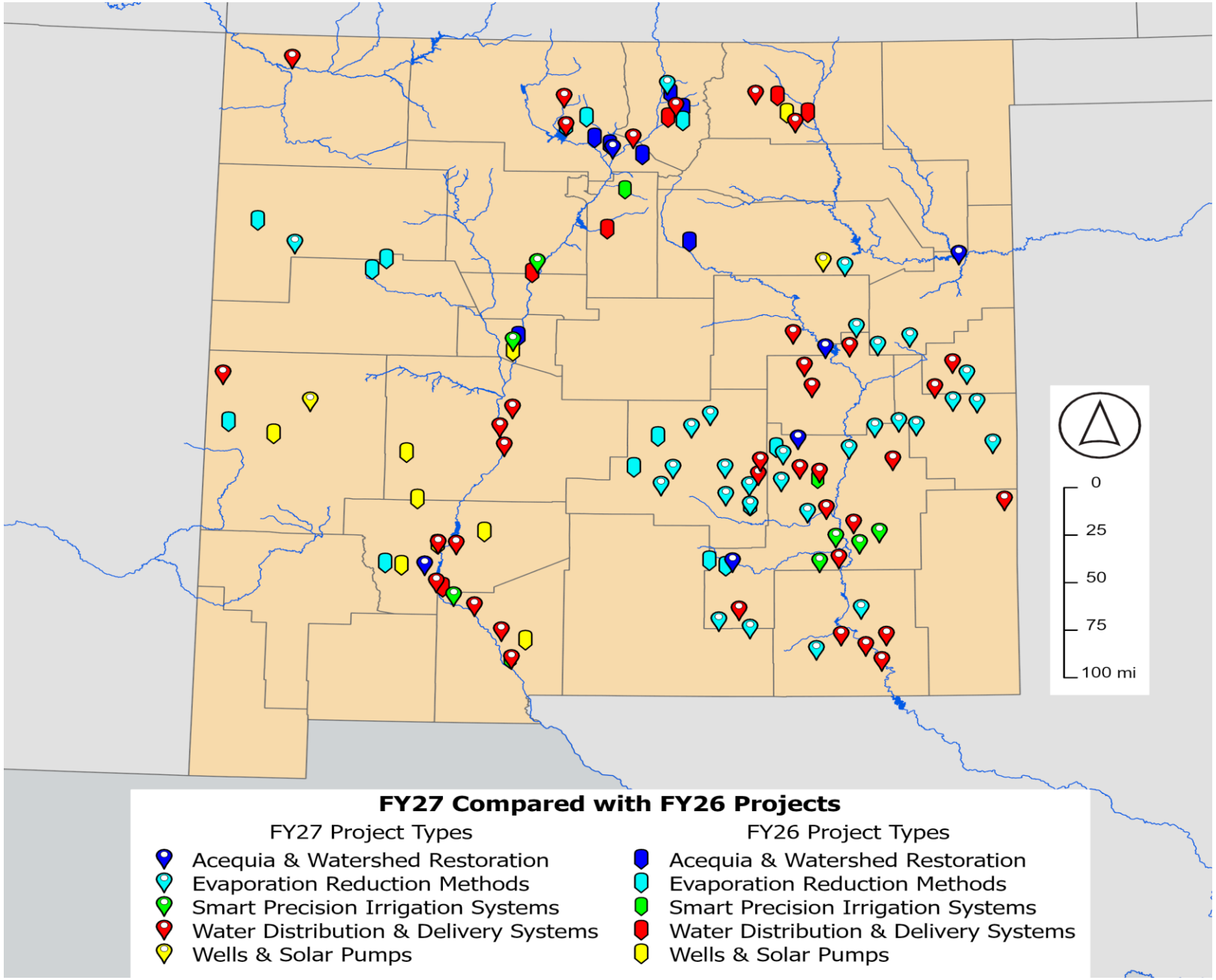
Kirsten Holles
Program Manager

WEBSITE & DATA MANAGEMENT

Anik Alvi
Data Management

Ishtiaq Ahmed
Web Development

NM Agricultural Water Resilience Program Project Types by Year



Project Type Count by Year

Project Type	FY26 Projects	FY 27 Projects
Acequia & Watershed Restoration	9	6
Evaporation Reduction Methods	14	29
Smart Precision Irrigation Systems	4	7
Water Distribution and Delivery Systems	6	38
Solar Well Pumping Systems	8	2
Total	41	82

Beneficiary Type by Year

Farmers and Ranchers	FY26 Projects	FY 27 Projects
Farmers	13	21
Ranchers	20	49
Farm and Ranch (both)	8	12
Total	41	82