

WaDE Program Update

Western States Water Council
Spring Meetings, Reno Nevada

May 23, 2023

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WESTERN STATES
WATER COUNCIL



Water Data Exchange (WaDE) Program

Transforming Western Water Planning, Management, and Policy by
Sharing States Water Data Since 2011

The WaDE Program is committed to assisting WSWC member states in publicly sharing water rights, allocation, supply, and use data through a common streamlined and standardized service that enables regional analyses to inform water resources planning and policies

WaDE Data is FAIR

Findable

Metadata and data should be findable for both humans and computers

Interoperable

Data needs to work with applications or workflows for analysis, storage and processing

F

A

I

R

Accessible

Once found, users need to know how the data can be accessed

Reusable

The goal of FAIR is to optimise data reuse via comprehensive well-described metadata

<https://www.scibite.com/solutions/enterprise-fair-data-mdm/>



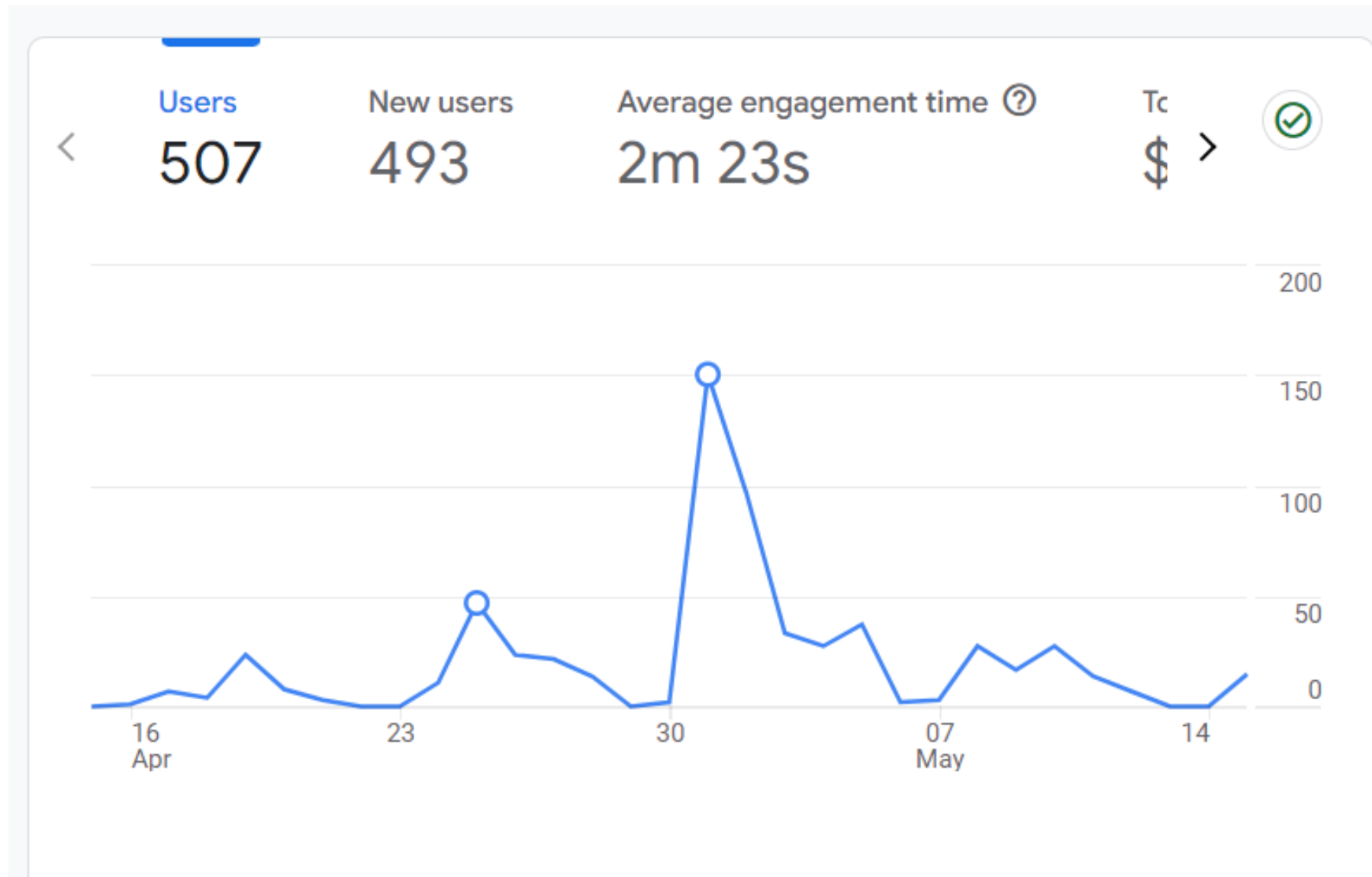
Explore water rights data with the Western States Water Data Access and Analysis Tool

The Western States Water Council (WSWC) has completed developing the first stage of the Western States Water Data Access and Analysis Tool (WestDAAT). The new tool is the latest phase of the WSWC's Water Data Exchange (WaDE) program which launched in 2011. WaDE facilitates sharing of member states' water-related data through a common platform. For the first time, WestDAAT provides access to machine-readable data, where available, for over 2.2 million water rights across the West on a user-friendly platform. At present, WestDAAT includes a number of filters that can be used to visualize the data by the owner, point of diversion, place of use, priority date, beneficial use (purpose), source of supply (surface water or groundwater), permitted flow or volume, and basin or watershed.

Did you miss our WestDAAT webinar and live demo last week? Don't worry you can watch a video of the full webinar [here!](#)

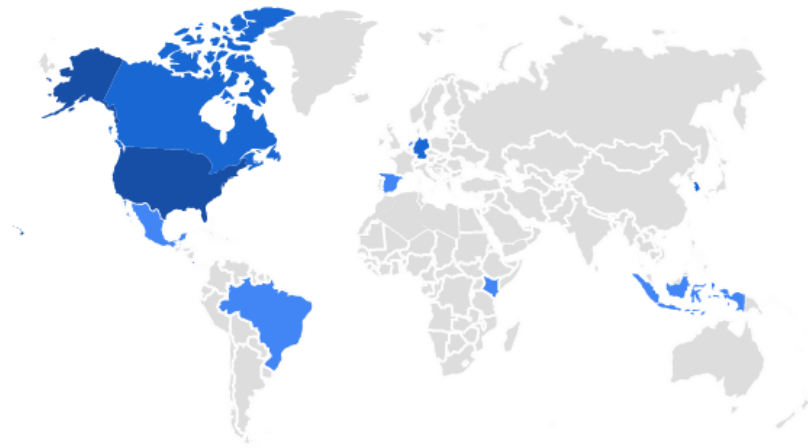
Explore WestDAAT

WestDAAT Traffic



WestDAAT Traffic

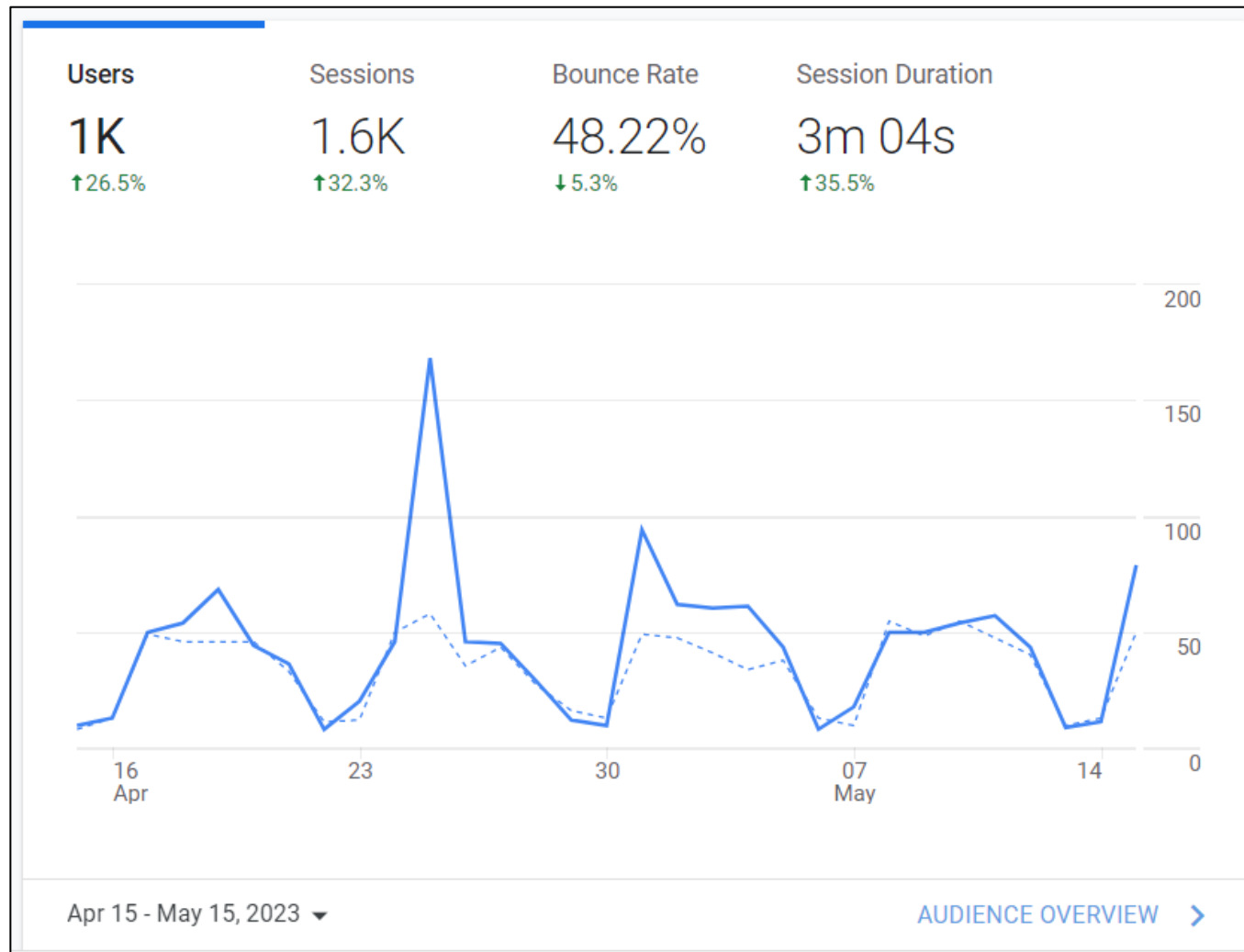
Users ▾ by Country



COUNTRY	USERS
United States	490
Canada	4
Costa Rica	3
Germany	2
South Korea	2
Brazil	1
Indonesia	1

[View countries](#) →

WSWC Website Traffic



WaDE Database and Water Data Shared through WestDAAT

#	Data Type	Data	# States sharing	WaDE database	WestDAAT
Stage 1	1	Water Rights Owner, point of diversion, purpose of use, permitted flow or volume, place of use, water source name and type, priority date	17	Yes	Yes
	2	State Regulatory Overlays Basins closed to new surface water diversions, groundwater management areas, natural resources districts, interstate stream and river compacts, etc.	5	Yes	No
Stage 2	3	State Site-Specific time series State reservoir and state streamgages or groundwater observation wells	10	Yes	No
		State public-supply water use	4	Yes	
		Historic withdrawals related to water rights (e.g. CA, ND).	2	No	
4	Area Aggregated time series Available water supply, withdrawal, demand and delivered water as well as consumption or consumptive use	9	Yes	No	

WestDAAT Use Cases and Personas

1. Gary the Governor
2. Stan the State Engineer
3. Maggie the River Basin Manager
4. Laila the Land Use Manager
5. Frank the Farmer
6. Ratibah the Researcher

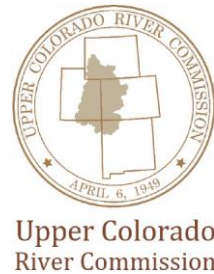
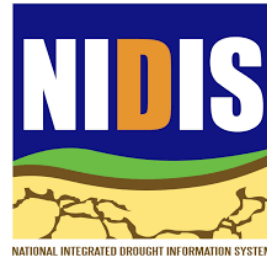
<https://westernstateswater.org/wade-updates/2021/westdaat-use-cases-and-personas/>

WaDE 2.0 “Translates” Water Terminology

□32 + metadata terms

Irrigation Method, Customer Type, Crop Type, Site Type, Water Source Type, Water Allocation Type, Applicable Resource Type, Data Quality Value, Report Year Type, Water Quality Indicator, Water Allocation Basis, Method Type, Legal Status, Regulatory Status, Regulatory type

#	Key Term	# of States Unique Terms	# of WaDE Unique Terms
1	Beneficial Use Category	386	21
2	Water Source Type	56	7
3	Site Type	171	9
4	Legal Status	149	TBD



Funders, Collaborators & Partners



Water Foundation
Mitchell Foundation
BHP Foundation
MOORE Foundation
EPA Exchange Network

WSWC Member State Agencies





DEMO: WaDE Site-Specific Reservoir and Observation Site Time Series Data

A web tool used to visualize and query historic water data for reservoir levels and observation site data across the Western United States.

DISCLAIMER: This tool is under construction, not for public use, and has not yet been fully approved by our member states.

Instructions
Use filters to narrow down selection if desired.

Select State
CA, CO, ID, MT, NE, NV, OR, T

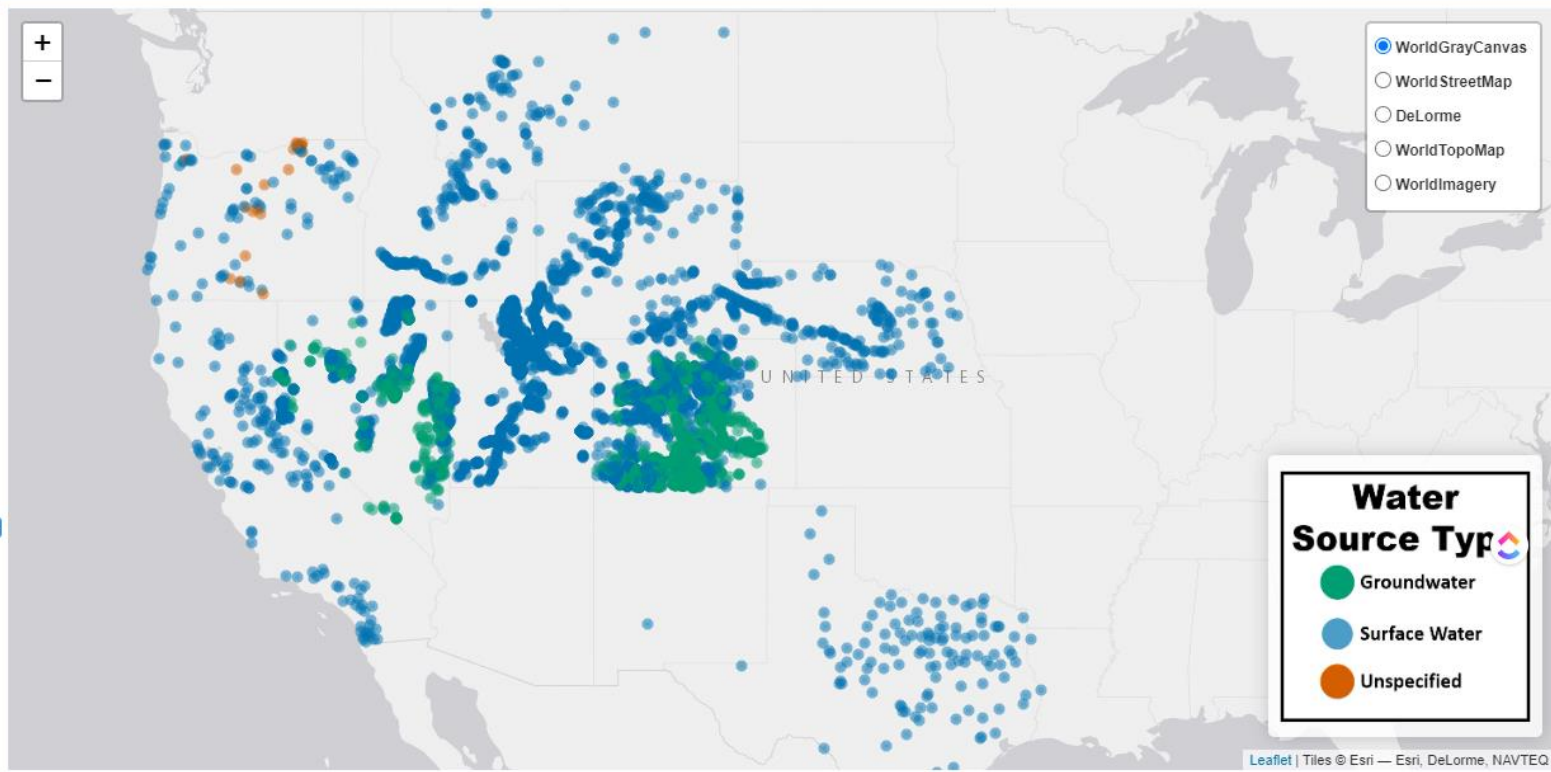
Select Site Type
Canal / Ditch / Diversion, Re

Select Water Source Type
Groundwater, Surface Water

Select Variable Data Type
Discharge Flow, Evaporator

Select Time Step Type
Annual, Daily, Monthly

Min Max Time
900-01-02 2023-03-23
1900-01-02 1949-04-19 1998-08-04

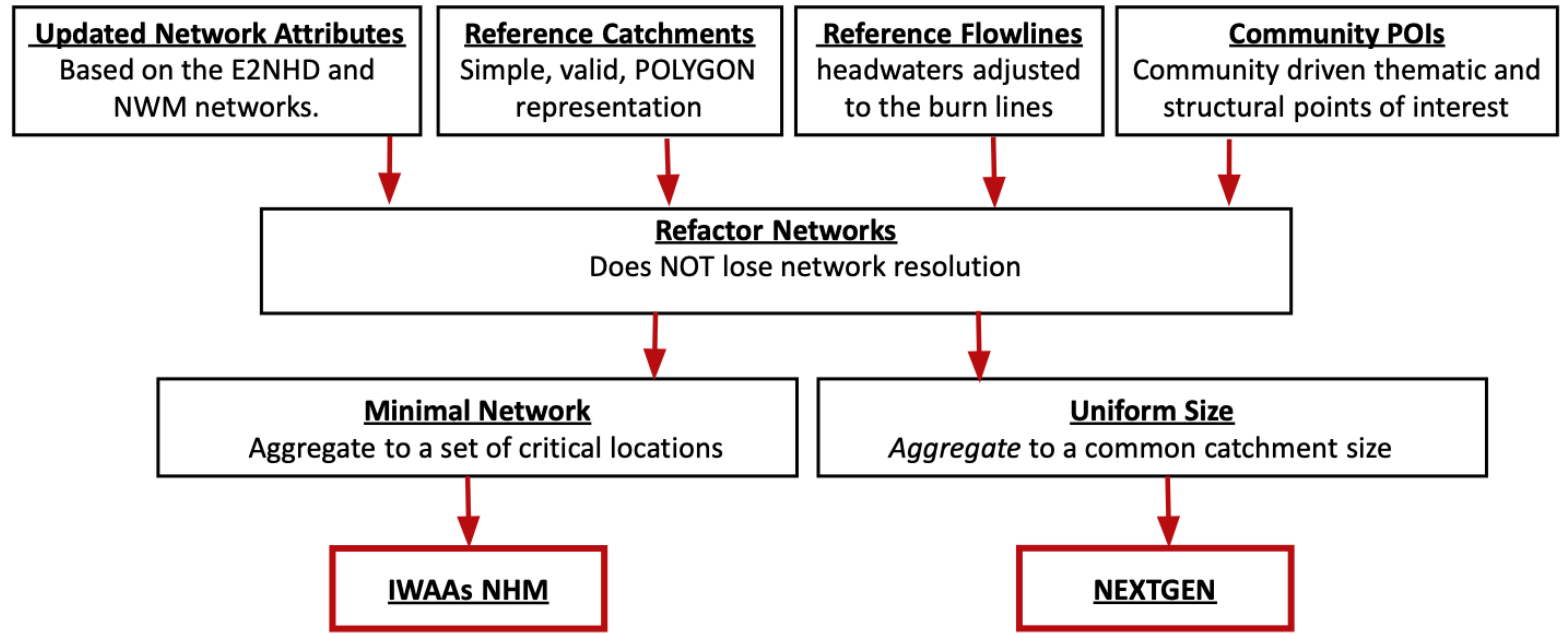
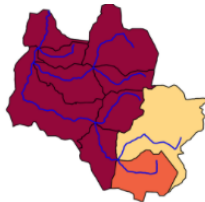
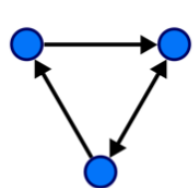


Leaflet | Tiles © Esri — Esri, DeLorme, NAVTEQ



CIROH

Cooperative Institute for Research to Operations in Hydrology



Western State Water Program Capabilities Assessment Update Report, 2022

Western State Water Program Capabilities Assessment Update Report

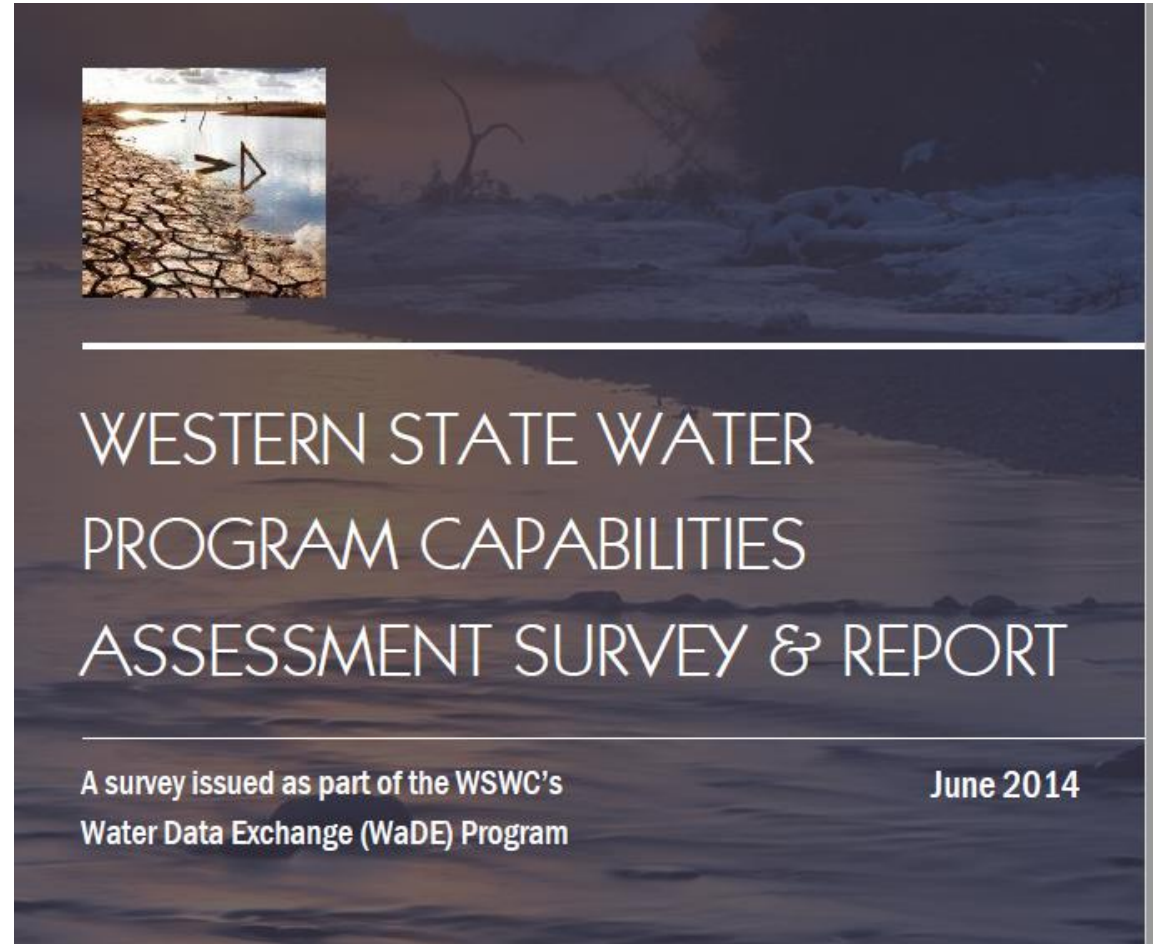
Adel Abdallah, Ryan James, Tony Willardson, and Michelle Bushman

Western States Water Council

December 22, 2022



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Western State Water Program Capabilities Assessment Update Report

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Live Demo

WestDAAT

<https://westdaat.westernstateswater.org/>

Prototypes

1. Reservoir and Gage Data
<https://waterdataexchangewswc.shinyapps.io/SiteSpecificReservoirAndObservationSiteDemo/>
2. Aggregated Area Water Budget Data
<https://waterdataexchangewswc.shinyapps.io/AggregatedBudgetWaterUseDemo/>
3. Public Supply Water Data
<https://waterdataexchangewswc.shinyapps.io/SiteSpecificPublicSupplyWaterDemo/>

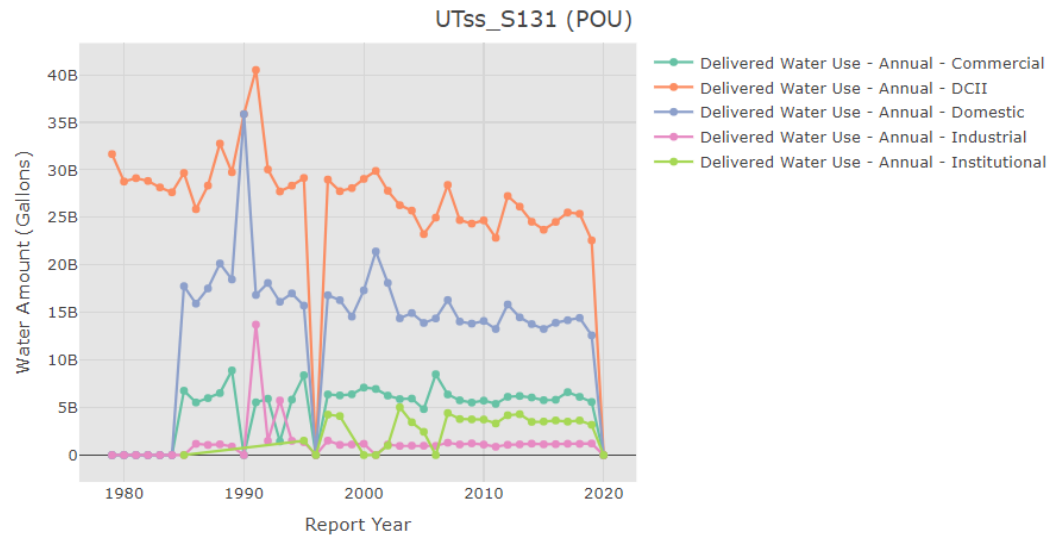
Historic Urban Water Use Data

DEMO: WestDAAT Site-Specific Public Supply Water Time Series Data

A web tool used to visualize and query historic water data for places of use and points of diversions and their relationships across the Western United States.

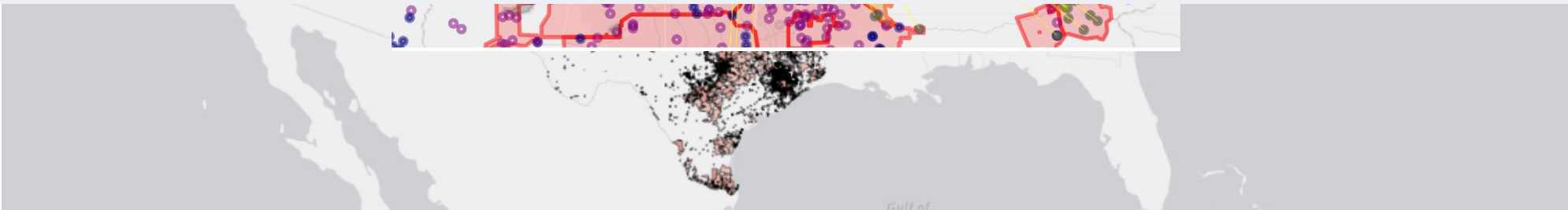
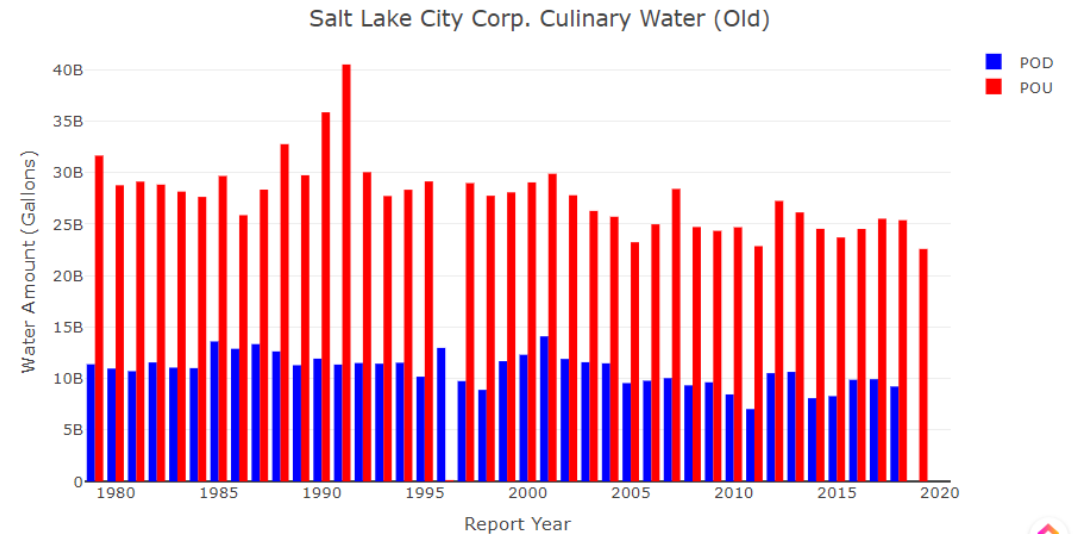
Site Water Use by Variable Specific Type

Pie Chart Line Plot



DCII Community Supply System Delivered (POU) versus Withdrawn (POD) Use

Pie Chart Line Plot



WaDE 2.0 Architecture

