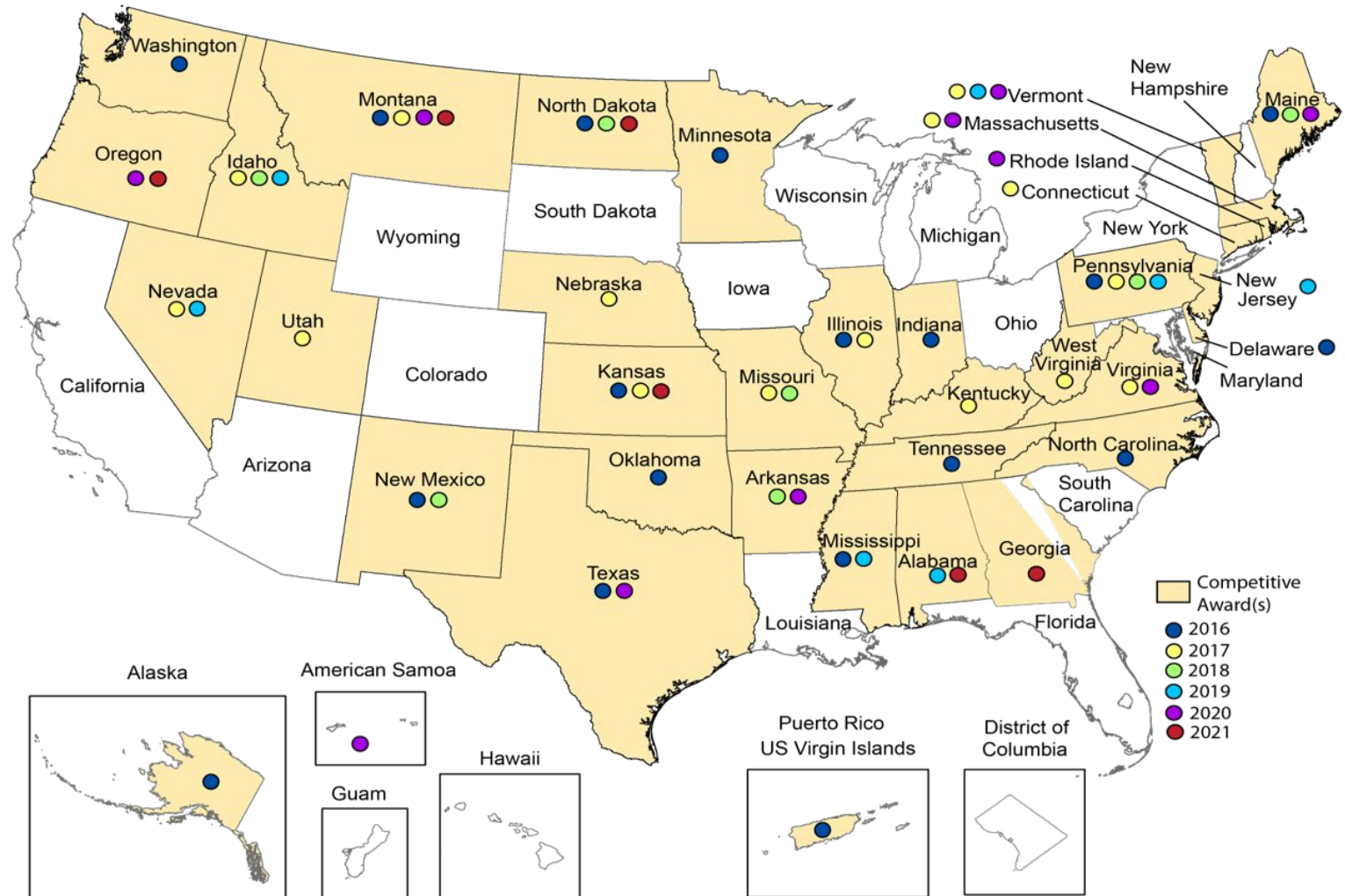


# Water-Use Data and Research Program (WUDR)



# What is WUDR?

The Water-Use Data and Research (WUDR) program was authorized under the Science and Engineering to Comprehensively Understand and Responsibly Enhance Water Act, or SECURE Water Act, in 2009.

Develop datasets

Improve  
water-use data

Understand water availability

Working with states

# What is WUDR?

The WUDR program has two main goals:

1. To improve the availability, quality, compatibility, and delivery of water use data that are collected and/or estimated by States to support National water-use assessments;
2. To integrate State water resource agency water-use or water-availability datasets into USGS databases (in electronic or machine-readable formats).

Develop datasets

Improve  
water-use data

Understand water availability

Working with states

# What is WUDR?

The USGS Water Use Data and Research Program (WUDR) was authorized under the SECURE Water Act Section 9508 in 2009.

- ❖ **Funding is for State and Territory water resource agencies only.**
- ❖ **Each State and Territory can receive a maximum of \$250,000, cumulatively, in grant funding (total includes non-competitive awards). This provision has not changed from prior years.**
- ❖ Workplans must be approved.
- ❖ Applications need to follow program announcement instructions carefully to be considered for funding.



# Where to find more information?

## Water-Use Data and Research (WUDR) program ACTIVE

By [Water Resources](#) August 24, 2021

The screenshot displays the WUDR program interface. On the left is a map of Pennsylvania with several circular markers of varying sizes. In the center, there's a 'WATER USE REPORTS' section with a table titled 'Table 1: Monthly Withdrawal, Losses/Leakage, System Operation and Delivery Statistics'. The table has columns for 'Month (2014)', 'Surface Water', 'Groundwater', 'Total Gallons of Losses/Leakage', 'Total Gallons Used in System Operations', and 'Total Gallons of Water Delivered'. A bar chart and a pie chart are also visible, along with a 'RELATED INFORMATION' section.

Month (2014)	Surface Water	Groundwater	Total Gallons of Losses/Leakage	Total Gallons Used in System Operations	Total Gallons of Water Delivered
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Annual (2014)	Estimated or Metered	Estimated or Metered	Estimated or Metered	Estimated or Metered	Estimated or Metered

[Overview](#) [Science](#)

The USGS Water-Use Data and Research (WUDR) program provides financial assistance through cooperative agreements with State water resource agencies to improve the availability, quality, compatibility, and delivery of water-use data that is collected or estimated by States.

### Contacts

[Water-Use Data and Research Program Coordinator](#)

Email: [wudr-coordinator@usgs.gov](mailto:wudr-coordinator@usgs.gov)

<https://water.usgs.gov/wausp/wudr/>



## U.S. Geological Survey (USGS) Water-Use Data and Research (WUDR) Program Overview and Status as of March 31, 2022

### What is the WUDR Program?

The USGS Water-Use Data and Research Program (WUDR) is an appropriated program and is authorized under the SECURE Water Act (Sec. 9508 (c)). WUDR provides financial assistance through cooperative agreements to State water resource agencies.

The WUDR Program has two main goals:

- To improve the availability, quality, compatibility, and delivery of water-use data that are collected and/or estimated by States to support national water-use assessments; and
- To integrate the water-use data into USGS databases in electronic or machine-readable formats.

#### At a glance:

- Each State can apply for up to \$250,000.
- States apply for awards through *grants.gov*.
- Competitive awards are for 1 to 2 years.
- States can have more than one project at a time.
- Final technical report is due 120 days after the project completion date.

### Non-competitive WUDR awards for workplans

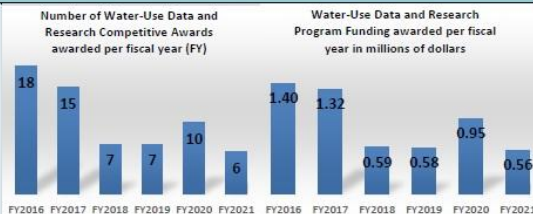
During Federal fiscal year 2015 (FY15), the first-year funding was awarded. States were awarded non-competitive awards to develop workplans to better understand the water-use data collection in each State, identify water-use data gaps, and prioritize work to reduce water-use data gaps. Between 2015–2021, 50 States and territories completed final workplans, with more than 1.2 million dollars awarded for workplans.

States must have an approved workplan prior to a competitive award application but can opt to write their workplans without non-competitive award funds (for example, Georgia completed their workplan in 2021 without WUDR funds). In these cases, the workplan funding amount is instead available for competitive awards. Completed workplans and the baseline standards table are available on the WUDR home page at <https://water.usgs.gov/wausp/wudr>.



### Competitive WUDR projects

The USGS WUDR started providing competitive awards in fiscal year 2016 and has awarded 63 projects to 35 states between fiscal years 2016 and 2021 for a total of about 5.4 million dollars. Projects can range from one to two years. In recent years most States have opted for 2-year projects.



# WUDR Projects Overview and Status

### WUDR 2020 Awards (Project end date September 2022 and Final Technical Report due March 2023)

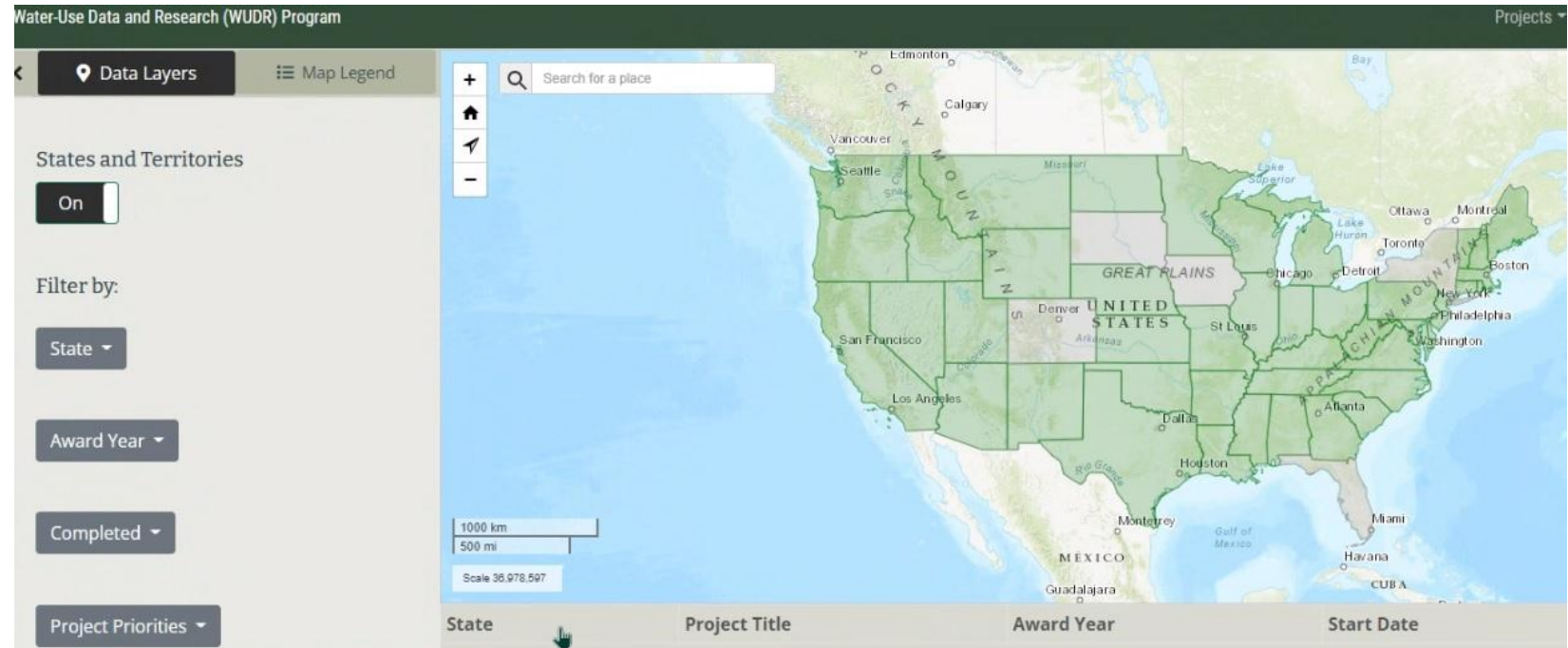
State	Status	Project activities
<b>Maine</b> Maine Geological Survey	<b>In progress</b>	
<b>Massachusetts</b> Massachusetts Department of Environmental Protection	<b>In progress</b>	

### WUDR 2017 awards

State	Status	Project activities
<b>Connecticut</b> Connecticut Department of Energy and Environmental Protection	<b>Completed</b>	
<b>Idaho</b> Idaho Department of Water Resources	<b>Completed</b>	
<b>Illinois</b> Illinois State Water Survey	<b>Completed</b>	

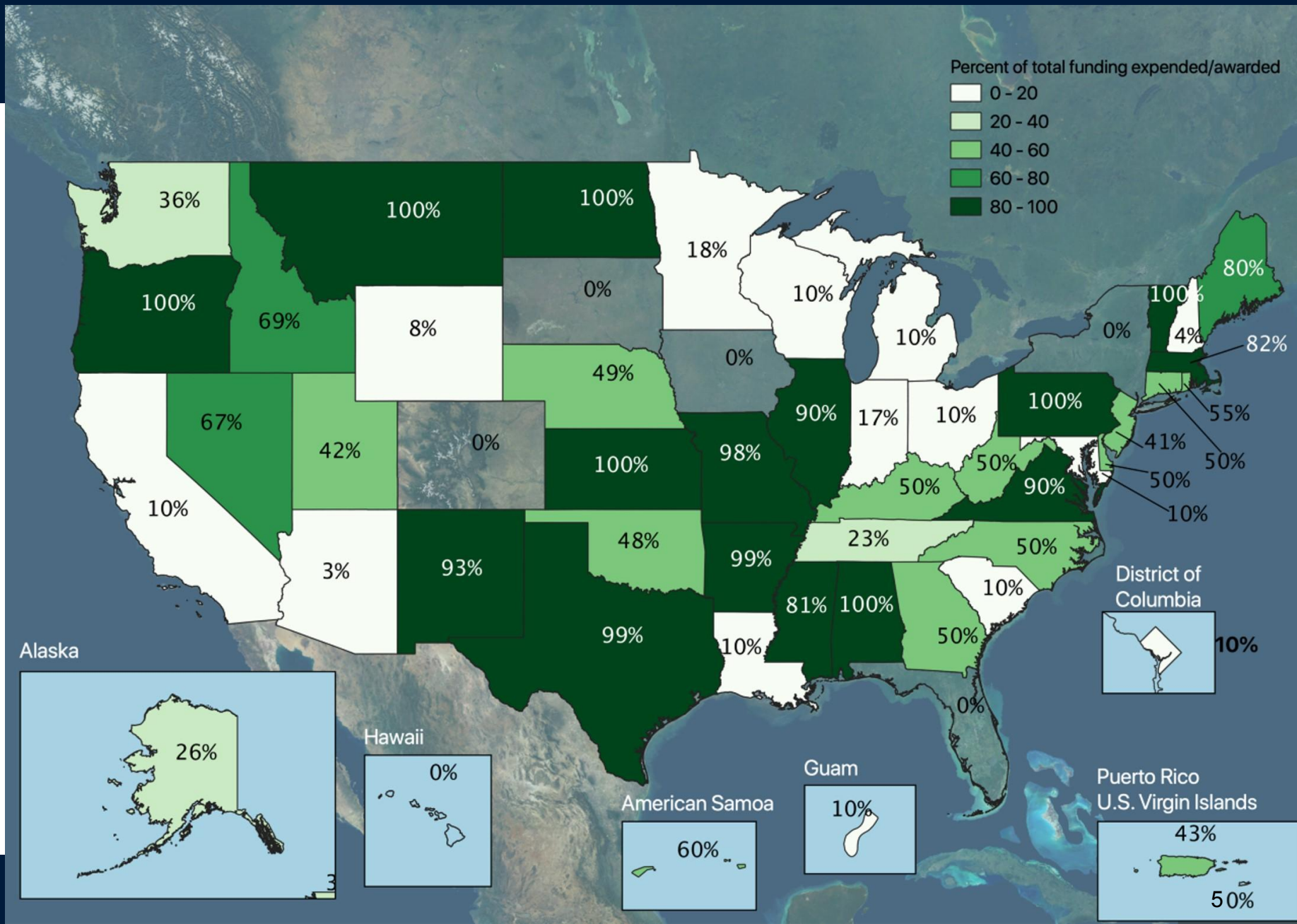


# WUDR Projects Overview and Status



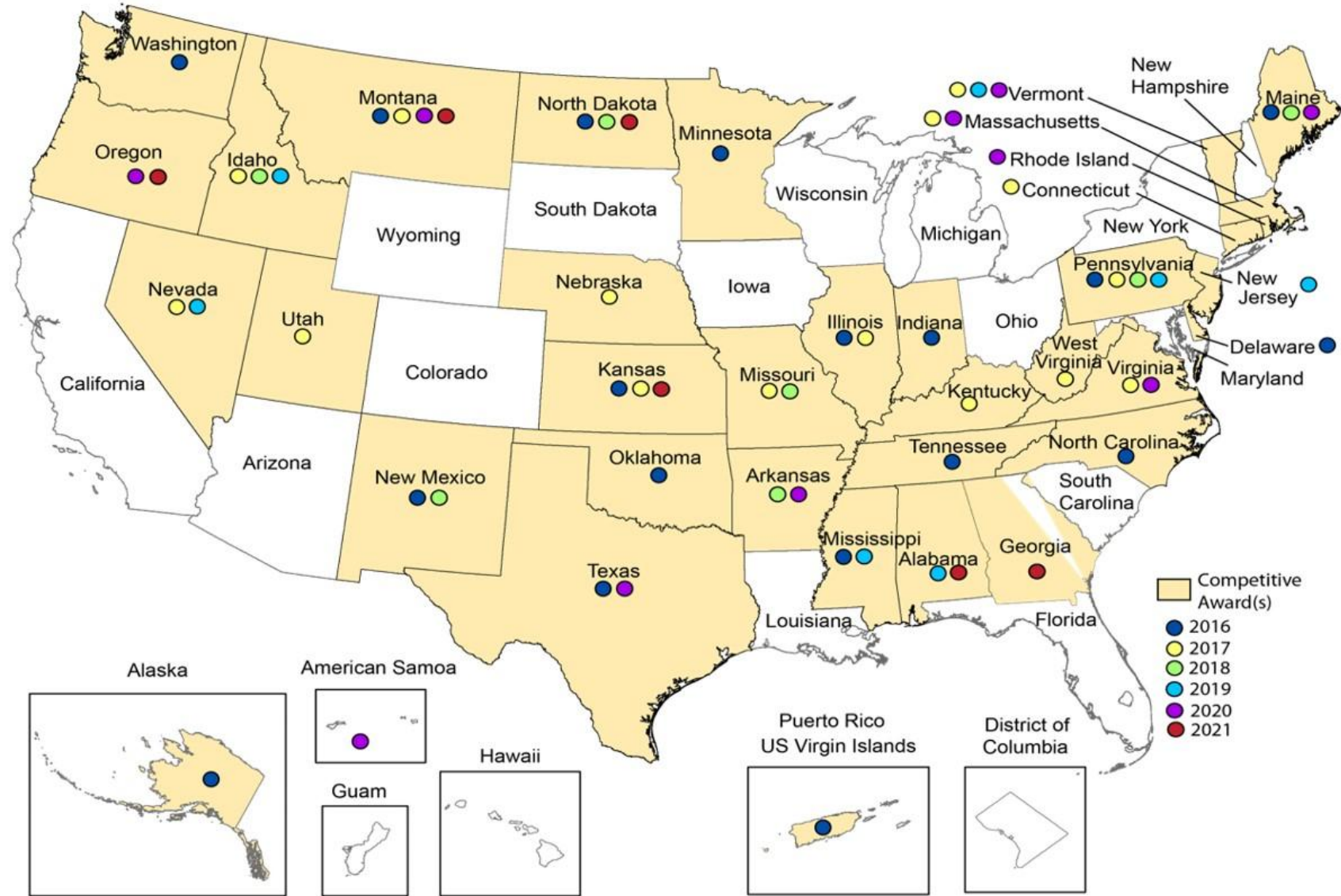
# Percent of total funding awarded from Fiscal Years 2015-2022

- States can receive a cumulative maximum funding of \$250,000
- States who have above 90% are no longer eligible to participate because of minimum proposal requests of \$24,000





# WUDR Projects, by State and Year

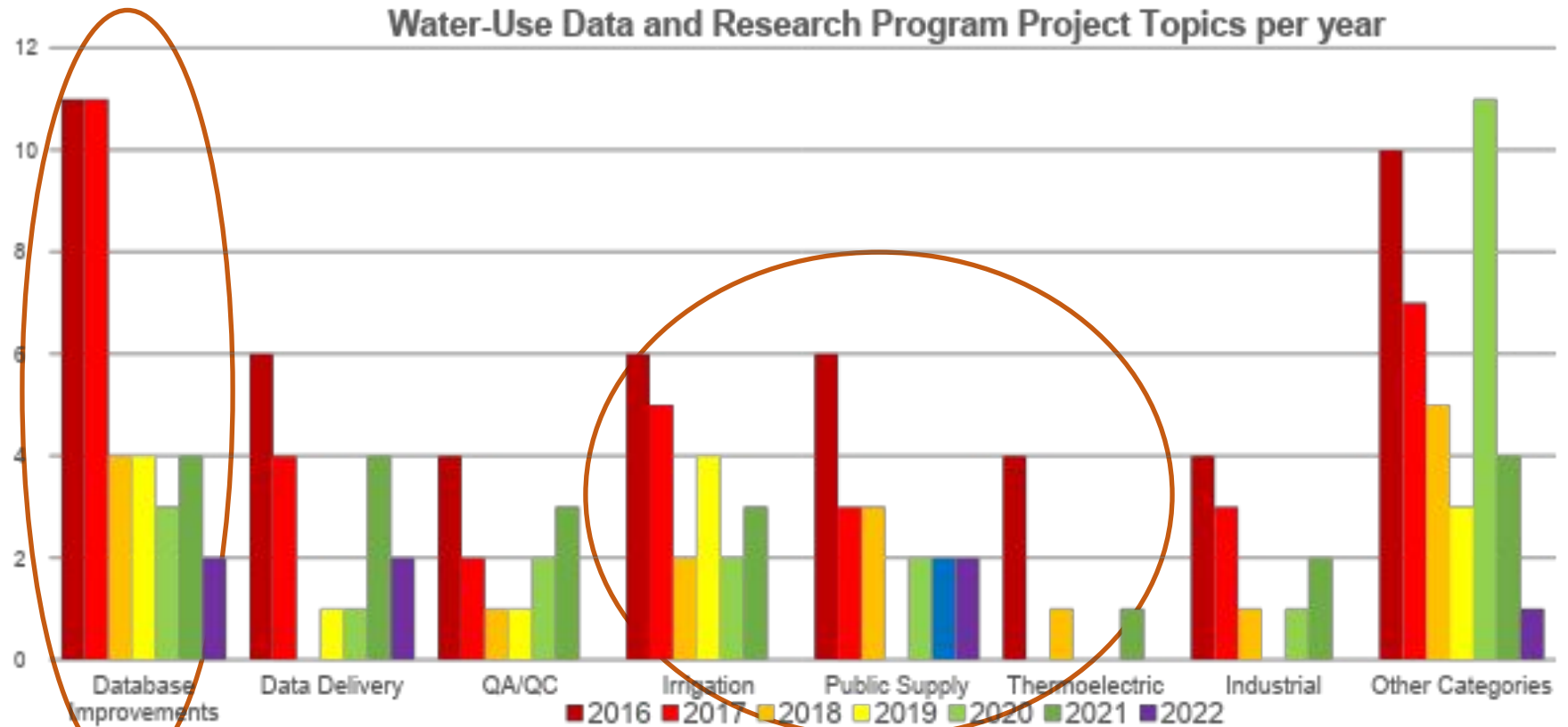


# Priority Topics

- **Improve the data collection process or quality assurance of water-use data:**
  - Also includes improving the transfer to USGS (i.e., machine-readable format)
  - Often works to improve existing State database (away from paper forms or spreadsheets)
  - Improving frequency to daily or monthly
  - Improving the spatial unit to site specific
  - Analyses that may help the State for projecting water use, trying to determine trends in water use, or figuring out holes in data collection procedures
- **Improve site-specific water-use data for public supply, irrigation or industrial use categories:**
  - Getting away from only annual withdrawals
  - Acquiring the source, such as aquifer designation for GW, surface water body / reservoir for SW
  - Desirable: digital boundary maps of irrigated lands, irrigation system types; for industrial, obtaining the NAICS codes
  - Public supply: improving domestic per capita, service area boundaries, population served, sales/purchases, etc.
- **Conduct studies that develop methods and/or coefficients:**
  - Emphasis on studies where the USGS is not currently conducting research
  - Examples: include uncertainty analysis, metering studies to better develop irrigation and domestic water use

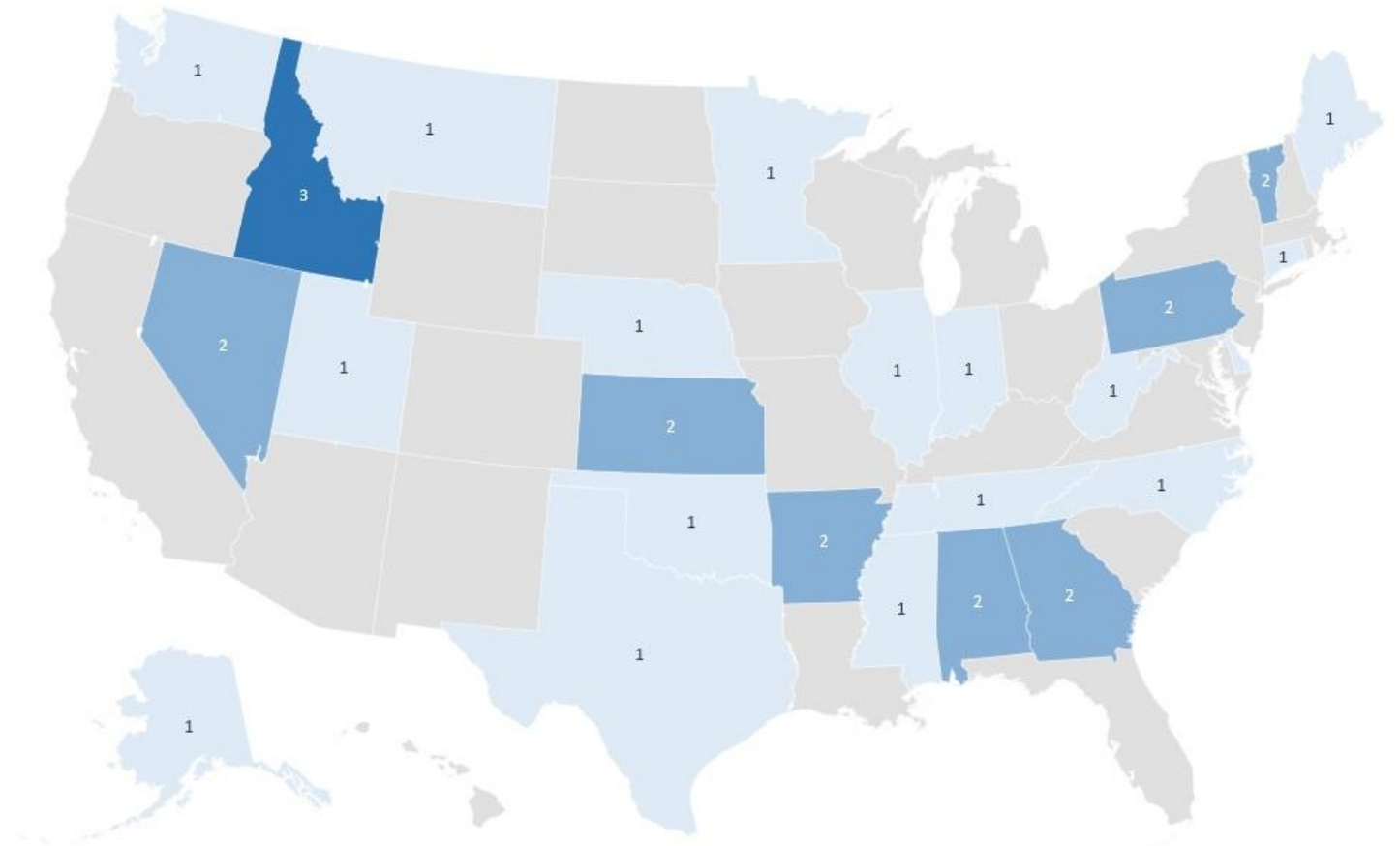
# WUDR Project Summary

- 65 competitive award projects since 2016
- Over half focus on database improvements (39)
- States with multiple-year awards
- Multiple projects support USGS water use model development



# WUDR Database Improvements Projects

- WUDR projects classified as including database improvements (with number of projects per state)
- Not shown: Puerto Rico, U.S. Virgin Islands



# Web Portal Project Highlights

## North Carolina

### Water Use Data Query Builder

#### Dataset (Required)

Please select... ?

#### Parameters (Optional)

Filter by date:  Do not filter  
 Range  
 Year(s)

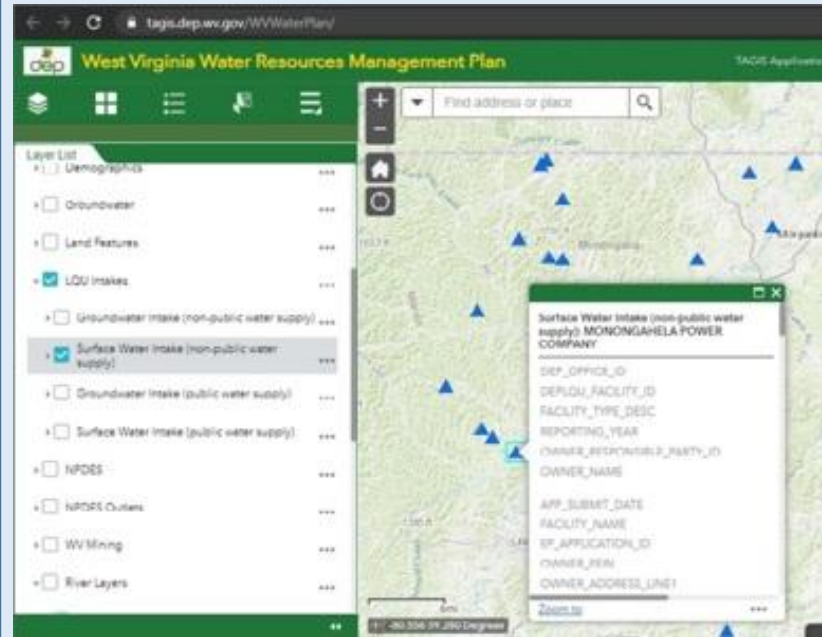
Filter by county:  Do not filter (all)  
 Select from drop-down  
 Multiple

Limit # of Results:

Generate Query

RESET FORM

## West Virginia



## Pennsylvania

Water Use Type  ▾

WUDS PF ID   NULL

EFACTS PF ID   NULL

WUDS SF ID   NULL

EFACTS SF ID   NULL

PWS ID   NULL

Client ID   NULL

Primary Facility Name

Report Year  ▾

SF Type  ▾

SF Status  ▾

County  ▾

Municipality  ▾

Region  ▾

Sub Region  ▾

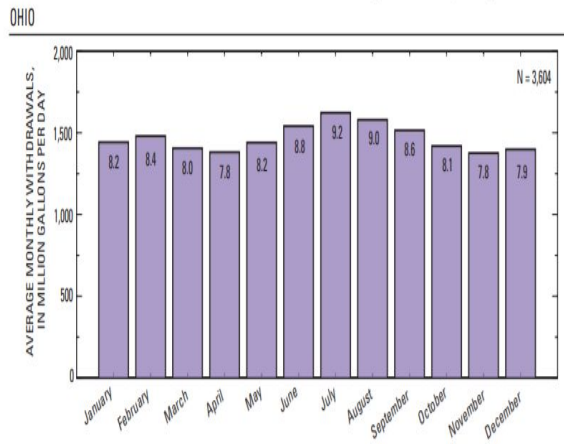
Basin  ▾

Sub Basin  ▾

Watershed  ▾

# Public Supply Model Data Needs

**Site-specific withdrawals**  
(Daily, Monthly and/or Annual)



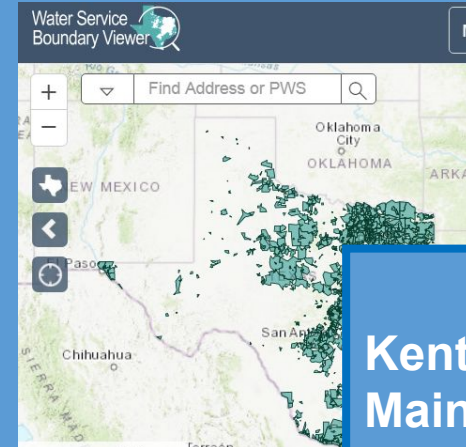
Alaska  
Mississippi  
Montana  
North Dakota  
Maine  
Rhode Island  
Tennessee  
Utah

**Spatially Relate Sites**



Idaho  
New Mexico  
Vermont

**Ancillary Data**  
(like Water Supply Service Areas)



Kentucky  
Maine  
Texas  
West Virginia

# Irrigation Model Data Needs

Irrigated acres  
(spatial and  
temporal)

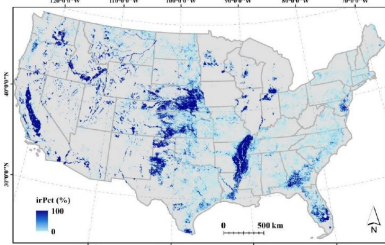
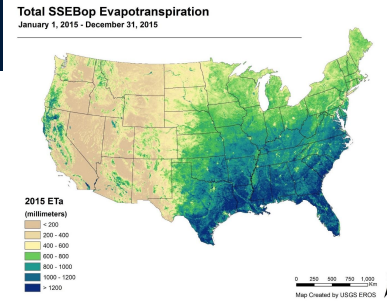


Figure 1. Spatial distribution of irrigated croplands based on our new Landsat Irrigation Dataset (LANID) for the year 2012. The LANID map is aggregated to 3km grids for visual purpose (rPct = irrigation proportion within a pixel).

System  
efficiencies



Withdrawals  
(verification/validation)



Evapotranspiration

Soil moisture  
(naturally  
available water)



Conveyance losses



Water Source

Surface water



Groundwater



**Product:** Daily  
surface-water and  
groundwater  
withdrawals at the  
HUC 12 level

# Can Multiple States Work Together?

- ❖ **Yes**, if each state has money left to apply for, a regional approach can happen.
- ❖ Workplans need to be updated to reflect study.
- ❖ States would need to determine if they would plan on using shared contractor or work individually while working together to be consistent.
- ❖ Each State would have to submit the proposal individually on [grants.gov](https://www.grants.gov).
- ❖ States would have to submit progress reports and final technical reports individually.



# Usage of Contractors

***Not enough staff to work on a project and have hiring constraints?***

Yes, can work with universities, other state or local agencies, or contractors to work on the tasks.

FYI: Applications are limited to State Water Resource Agencies. The applicant is the main recipient and responsible for all aspects of the award. Also, the award agreement is between the applicant (the State Water Resource Agency) and the USGS.

# More information



<https://water.usgs.gov/wausp/wudr/>