

Internet of Water

Better Water Data for Better Water Decisions

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CENTER FOR
**GEOSPATIAL
SOLUTIONS**



LINCOLN INSTITUTE
OF LAND POLICY



Internet
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Principles and
Philosophy



Philanthropic
Project



Emerging
Federal Initiative



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- Place-based collaborative water data projects
- Common standards, advanced through a nationwide community of practice
- Essential new technologies



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From Principles to Prototype: The Internet of Water Start-Up and Coalition

- The IoW project was formed in 2018 at Duke University's Nicholas Institute for Environmental Policy Solutions. After a successful three-year start-up phase the IoW Coalition was formed.
- The IoW Coalition is led by the Center for Geospatial Solutions at the Lincoln Institute of Land Policy in partnership with Duke University, the Western States Water Council, the Water Data Collaborative, and the Consortium of Universities for the Advancement of Hydrologic Sciences, Inc.



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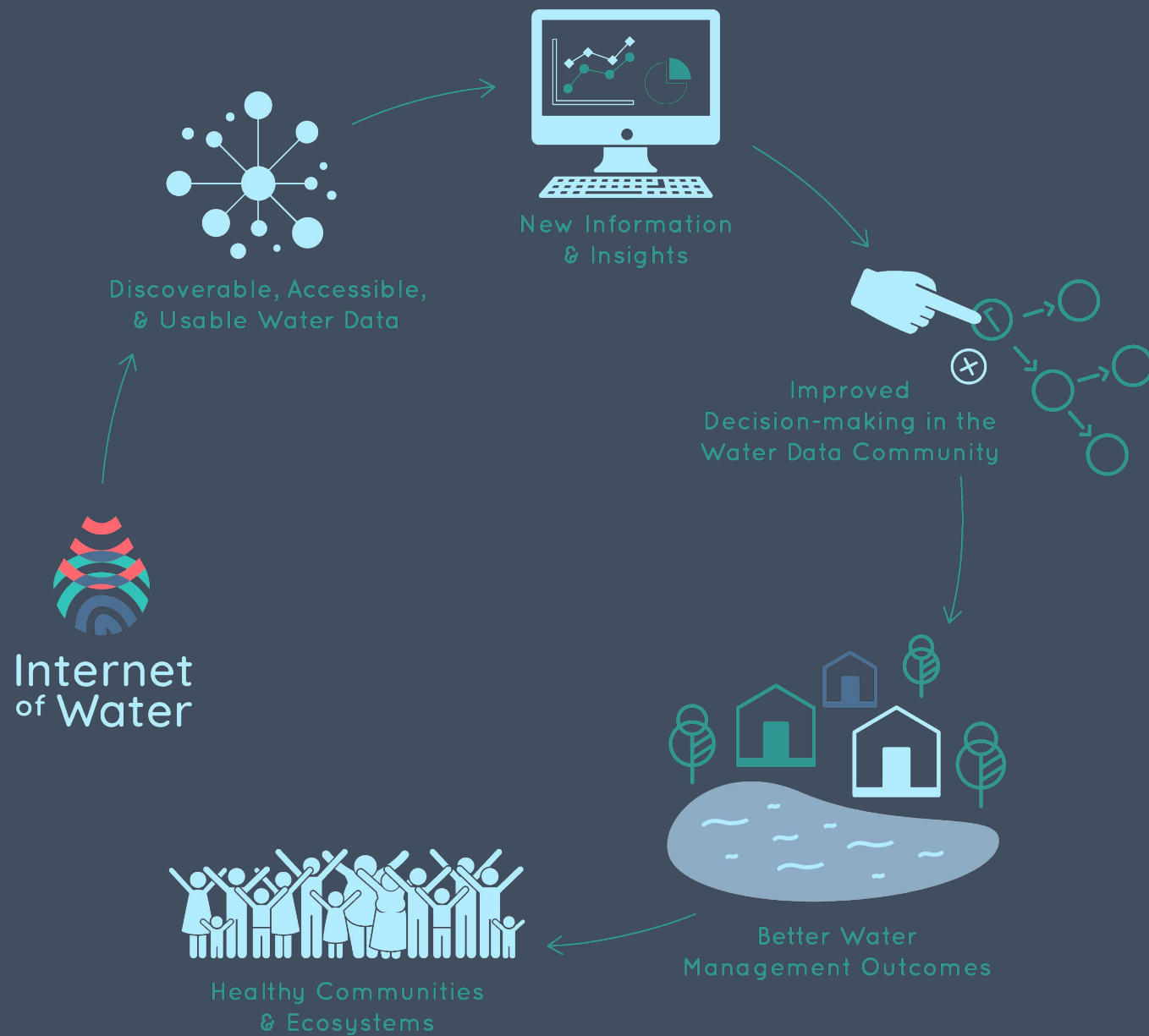
Principles



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Place-Based Projects



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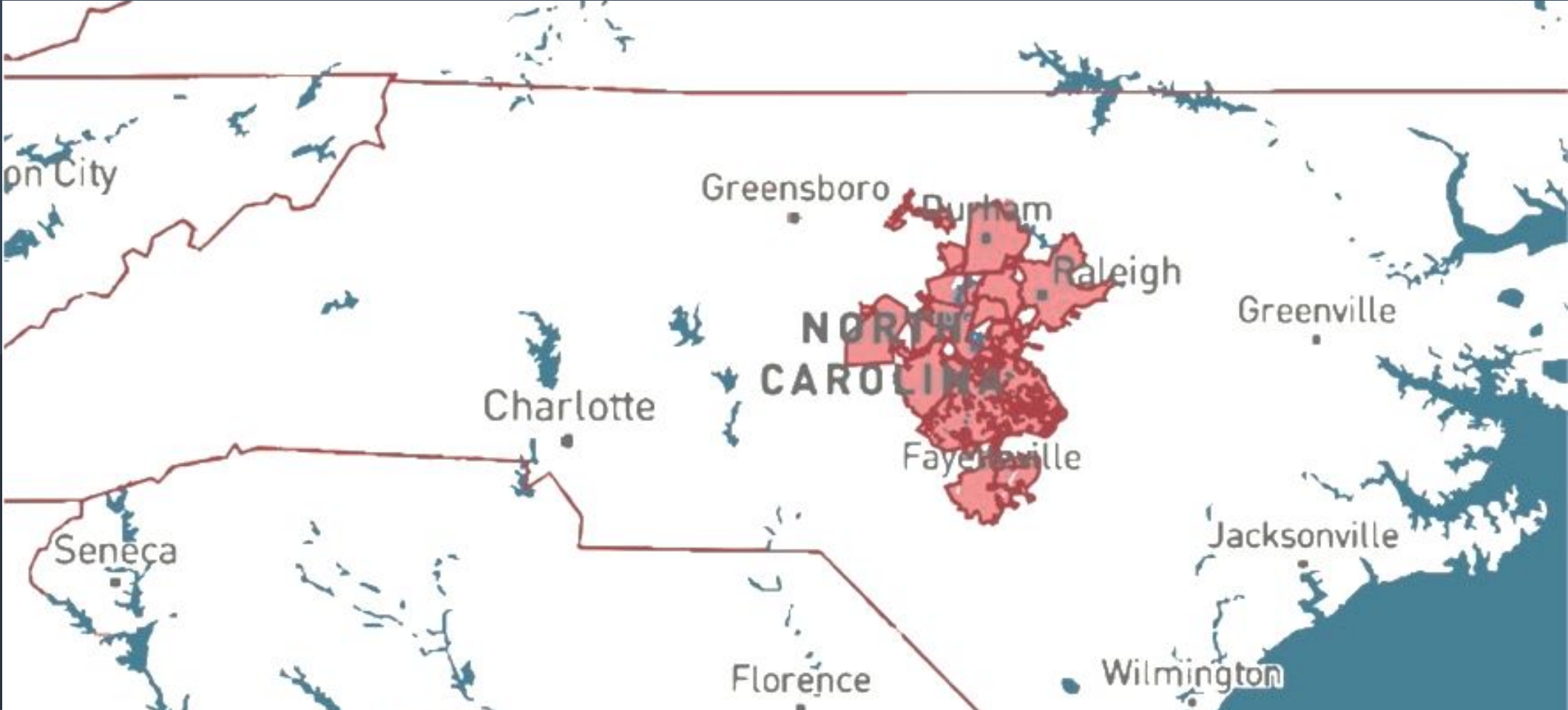
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NC Water Supply Dashboard

Helping utilities share demand, conservation status, and other data relevant to water supply.



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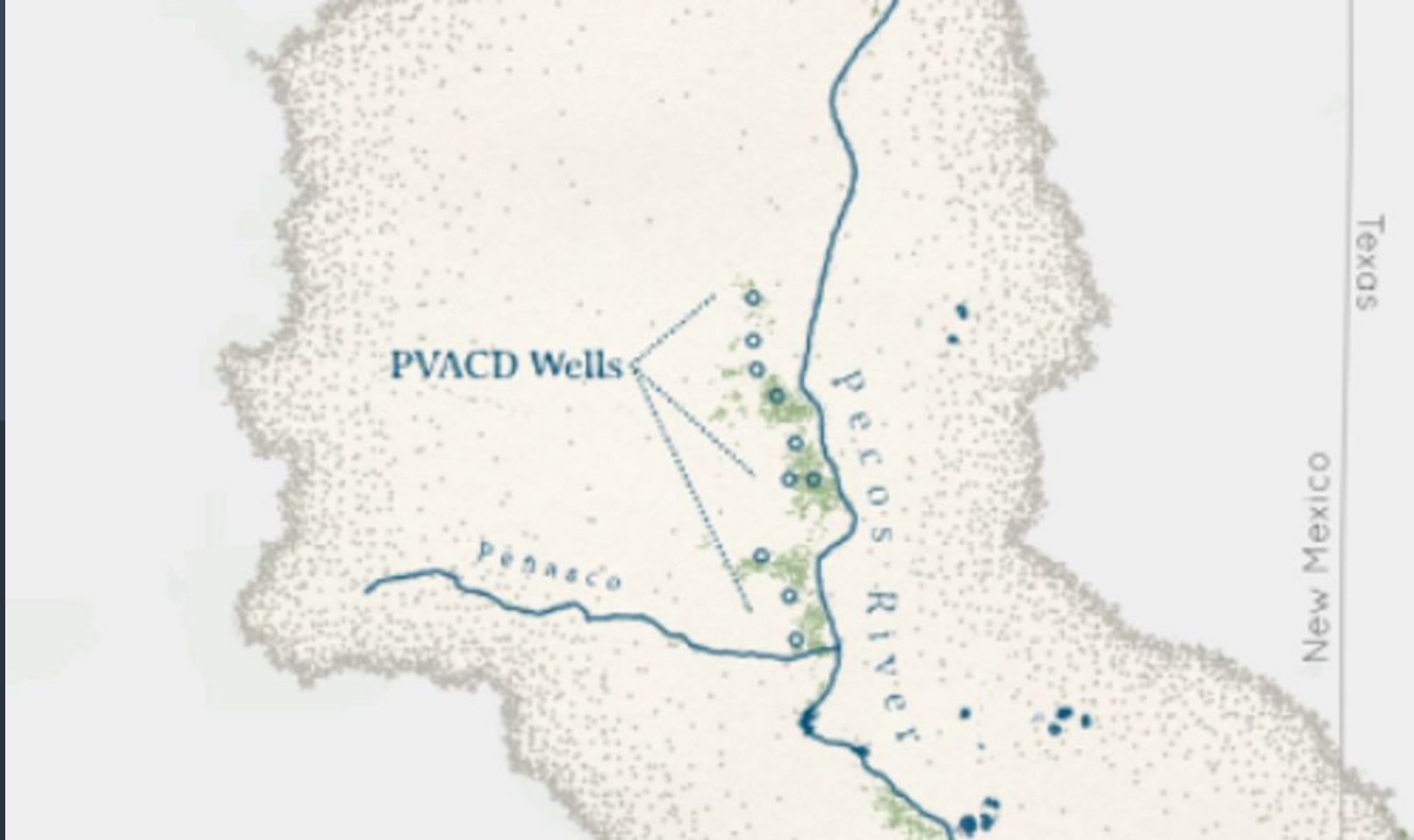
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Improved Data Management and Decision Support in the Lower Pecos Valley

Management of groundwater withdrawals for the Pecos Valley
Artesian Conservation District



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Freshwater Harmful Algal Blooms Monitoring and Notification System

Integrating state Monitoring data with data collected by tribal governments and community science organizations



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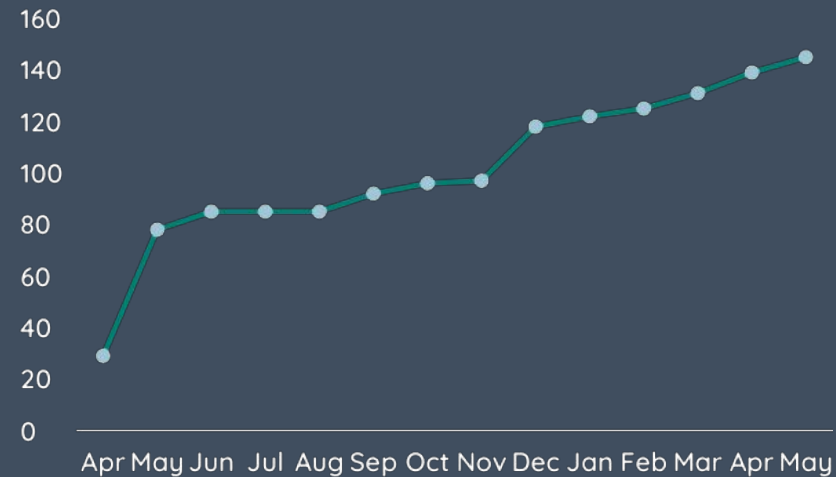


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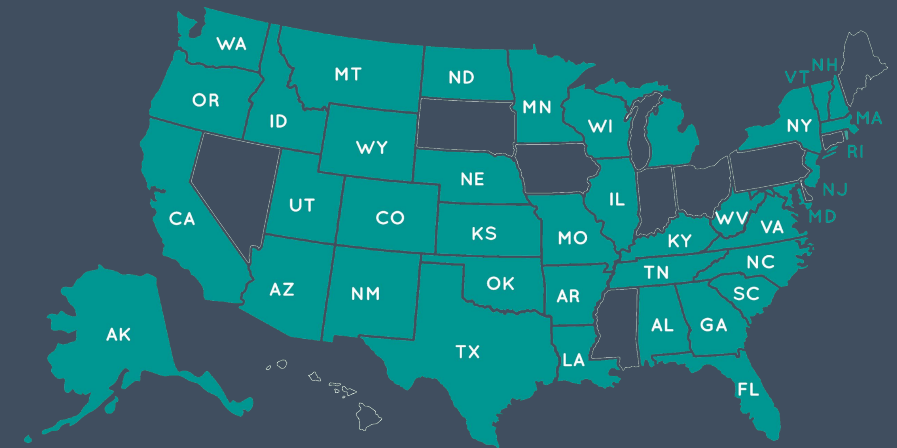


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Peer-2-Peer Network Community of Practice



145 Members



33 States



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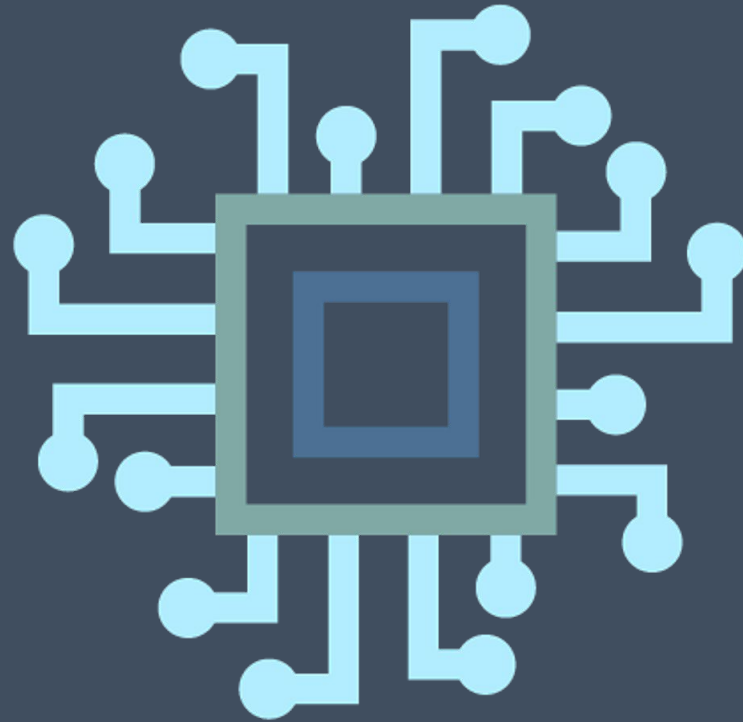
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New Technology



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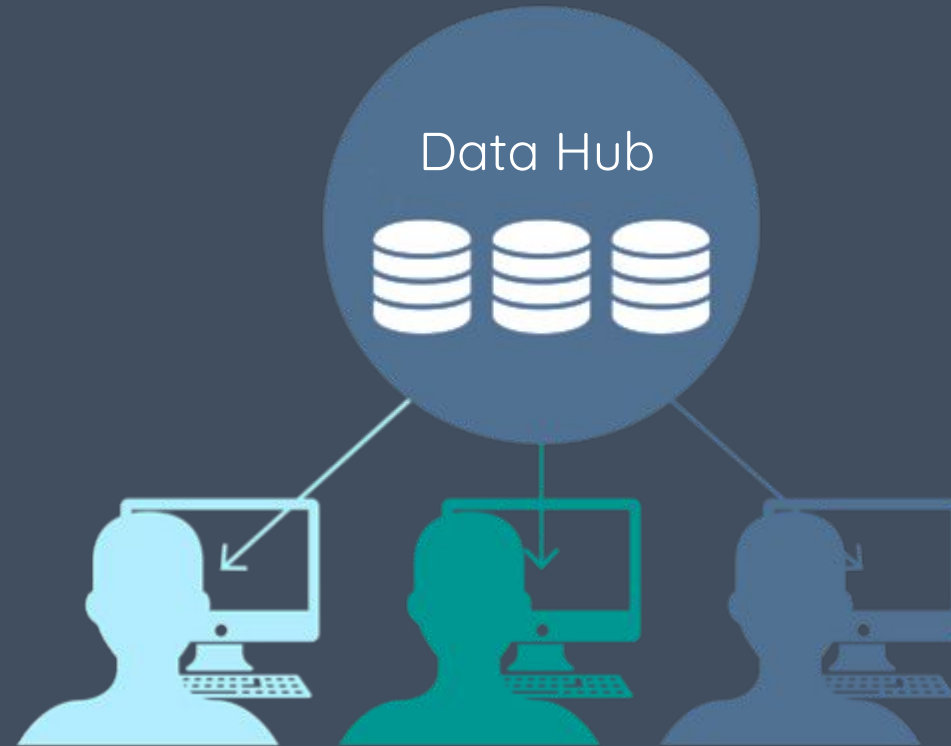
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WESTERN STATES
WATER COUNCIL



CUAHSI



WATER DATA
COLLABORATIVE



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Geoconnex

A search index for
water data from all
organizations



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Before Geoconnex



After Geoconnex



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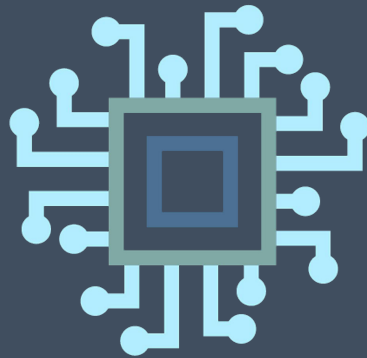


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Emerging Federal Initiative



New Technologies



Hydropower



Clean Water



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Achieving an Internet of Water by 2030

Recommendations for Federal Policymakers



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Decision-makers need quick and accurate information about the water resources they manage:

- How much water is there?
- How is it being used?
- What is its quality?
- Is there enough water of suitable quality for present and future needs? At what cost?
- Which communities can afford their water bills, and which cannot?



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While vast amounts of water data are publicly available, they are collected by different public agencies and organizations, for different purposes, and are scattered across multiple platforms.

As a result, water data are hard to



FIND



ACCESS



USE



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To improve decision-making and ensure equitable, sustainable, and resilient water resources protection, development and management, the US must build an effective Internet of Water.



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Infrastructure Investment and Jobs Act (IIJA) Recognizes the Internet of Water

- The IoW Principles were specifically called out in the IIJA
- The IIJA includes a new EPA grant program that will initiate state-based water data sharing pilot programs (Section 50213)
- The IIJA requires that the Internet of Water principles guide any water data sharing efforts under the pilot program.

Four Actions to Achieve an Internet of Water by 2030



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1

Water Data Sharing Pilots Grant Program at EPA

The new grant program authorized in the bipartisan Infrastructure Investment and Jobs Act (IIJA) at \$75 million would initiate state-based water data sharing pilot programs (Section 50213) focused on clean water objectives to protect communities and the environment from water pollution.



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2

Water Data Sharing Grant Program at USGS

A corresponding grant program at USGS, modeled on the IJA Clean Water Data Sharing Pilot program authorized at EPA, would accelerate water data sharing for natural resources management. The grant program should include specific provisions to support tribes in the management and modernization of water data.



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3

Establish a New Water Data Sharing Framework at USGS

A new national water data sharing and integration framework at USGS would form the cornerstone of an Internet of Water. This new framework should: (a) integrate water data and other related data sets furnished by non-federal data sources with those managed by USGS, while protecting data privacy, security, and quality; (b) establish a new shared geospatial system for publishing and linking water data for persistent, easy discovery on the web; and (c) support the adoption of new technologies by states and tribes



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4

Encourage Federal Agencies to Adopt Internet of Water Principles

Federal water agencies should, to the fullest extent practicable, be guided by Internet of Water Principles for the management of water data, and should integrate Internet of Water Principles as criteria for Federal contracts and grants pertaining to the collection and management of water data.



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River Runner Linked





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