



University of Nevada, Reno



University of Nevada Water Innovation Campus

*Northern Nevada Water Planning Commission
March 1, 2017*



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Water Innovation Campus Concept

Water Innovation Campus is a shared vision and effort by the regional water utilities and UNR to develop and implement leading edge and integrated water solutions for the regional needs, and demonstrate national leadership in the water sector by the Truckee Meadows region.

The campus is intellectually/administratively housed at UNR and physically located at the regional water utilities. UNR research labs serve as the basic and fundamental research component of the water innovation campus



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Inspiration

The Northern Nevada region is experiencing economic expansion and is transitioning to a more knowledge-based / technology-centric economy.

Sustainable water strategies, thoughtfully planned infrastructure, and water sector leadership are vitally important to our community at this time.



Charter Members

- *City of Reno*
- *UNR*
- *Washoe County*
- *City of Sparks*
- *Northern Nevada Water Planning Commission*
- *Truckee Meadows Water Authority*
- *TMWRF*

- Additional members from other utilities, state agencies, industry, consultants, and water groups can be included in the future
- Collaboration with other Nevada centers in the future



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Krishna Pagilla, PhD

- Environmental Engineering Program Director
- Internationally Recognized Researcher
- Community Focused Solutions
- UNR's Water Innovation Campus Director

Northern Nevada Potable Reuse Study

- \$675,000 award from WRWC
- 3 PhD Candidates





Water Innovation Campus Focus

- Water Reclamation and Reuse Applications
- Water Treatment
- Resource Recovery (Nutrients, Energy, Water)
- Sustainable Water Management
- Stormwater Management
- Surface and Ground Water Quality
- Water Education



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Activities

- Regional Needs Assessment
- Technology Solutions – Research and Development
- Pilot and Full Scale Demonstrations
- Leading Edge Technology Adoption / Validation
- Technical Training
- Knowledge Exchange
- Public Outreach and Communication
- Human Resource Development
- Intellectual Property
- National and International Conferences and Workshop



Why?

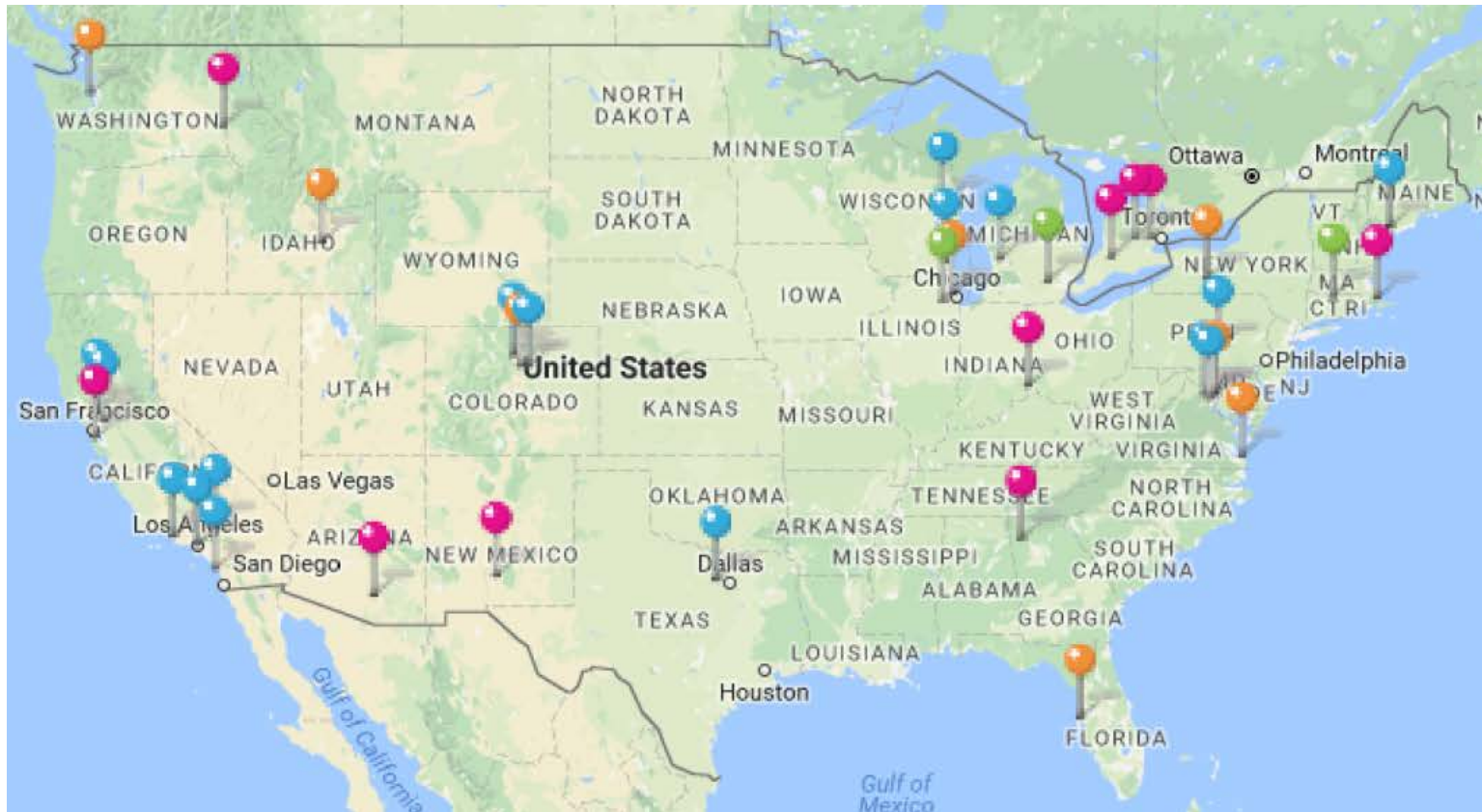
- Regional Needs Addressed In-house
- Sustainable Solutions Fit for the Region
- Technology Development Capacity in the Region
- National Visibility and Ability to Attract Resources
- Economic Development and Job Creation (e.g., in Collaboration with WaterStart and Industries)
- Collaboration and Knowledge Sharing
- Establish UNR as a Leader in the Water Sector



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Industry Trends – Regional Research Centers





UNR Institutional Support

- UNR College of Engineering will build UNR's water-based Environmental Engineering into top 30 program in the country
- Strong support from the Chair of CEE Department
 - Dean Maragakis committed \$50K in facilities upgrade (HREL 301)
 - Water Innovation Campus Process Lab
 - \$25K/year for 3 years as Charter Member
 - VPRI, Dr. Mridul Gautam has committed \$25K/year for 3 years
 - Charter Member (UNR Contribution = \$50K/year)
 - 1000 sq ft office space
 - No indirect costs on external member dues
- Potential field facilities at UNR Main Station Field Lab for housing large scale pilot plants



Next Steps

- Charter Members Fund the Water Innovation Campus for 3 years
 - (Coordinator, Website, Marketing, Programming (Needs Assessment), Member Activities, Initiate Projects)
- Self-Sustaining after 3 years
 - (Through Project-Based Funding from Members, Membership Fees, and External Grants/Contracts)
- Figure out a Governance Structure
 - (Charter Members with Rotating Chair?)
- Initiate National Outreach to Affiliate and Collaborating Members, Research Foundations



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Water Innovation Campus Thank you





Examples

- Confluence, Cincinnati, Ohio (ORSANCO, UC, Industry)
 - Confluence was formed to establish the Ohio River Valley region as a global leader in sustainable, environmental technology innovation, with an emphasis on the water environment. Our vision is to identify, test, develop and commercialize innovative technologies to solve environmental challenges and spur sustainable economic development and job creation.
 - Through a shared need to address specific and growing challenges, the Confluence Regional Utility Network provides a platform for fostering customized, forward thinking solutions; promoting regional resource efficiency; and driving water technology development.



Examples

- The Water Council, Milwaukee, Wisconsin (UW-Milwaukee, MMSD, City of Milwaukee, Industry)
 - The Water Council was established as a 501(c)(3) organization in 2009 by Milwaukee-area businesses, education and government leaders. With a mission of aligning the regional freshwater research community with water-related industries, we take great pride in having coalesced the leading water technology cluster in the United States and one of the most powerful in the world.
 - The Water Council links together global water technology companies, innovative water entrepreneurs, government agencies, non-governmental organizations (NGO), acclaimed academic research programs and some of the nation's brightest and most energetic water professionals.¹⁴