

Water Wise Development Coalition

Marianne Eppig, Director of Resilience, ULI

January 18, 2023

Agenda

- Welcome and Overview (10 min)
 - Group chat introductions: name, title, org, location
 - About the Water Wise Development Coalition
 - Partner introductions
- Water Wise presentations & Q&A (45 min)
- Group Discussion & Survey Results (30 min)
- Next Steps (5 min)



Water Wise Development Coalition

- **Who:** ULI, in partnership with the Alliance for Water Efficiency, the Sonoran Institute, and the WaterNow Alliance, is convening land use and real estate professionals with policymakers and decision-makers. This coalition is supported by the Colorado Water Conservation Board.
- **What:** Advancing water-smart real estate development and supportive policies.
- **When & Where:** Quarterly virtual meetings.
- **How:** Participants will have a say in meeting topics, speakers, and efforts.



Headquartered in Washington, D.C., ULI is an independent and nonpartisan organization singularly focused on impact.

From its establishment in 1936, ULI's fundamental purpose has been to **connect** industry leaders, **inspire** best practices for equitable and sustainable land use, and **lead** in anticipating and addressing challenges facing the urban landscape.

LOCAL IMPACT

Where ULI and our members make a real difference in people's lives

ULI is a global organization, engaging members across three regions — Americas, Europe, and Asia Pacific. Signature programs are delivered at the local level by District and National Councils. District Councils represent major cities and metropolitan areas in the Americas. National Councils represent countries in Europe and Asia.

70+ District and National Councils worldwide

ULI AMERICAS

58 District Councils

ULI EUROPE

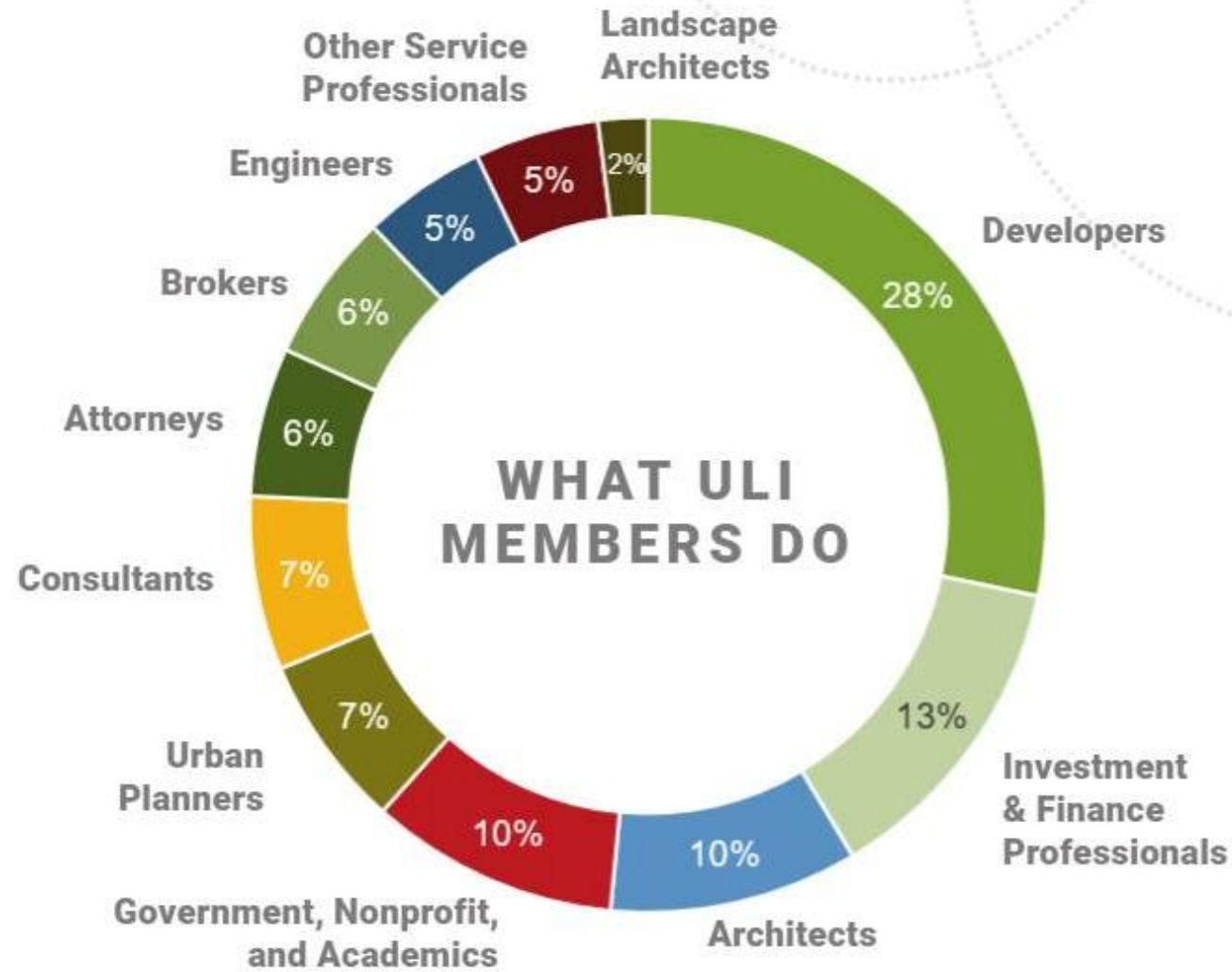
13 National Councils

ULI ASIA PACIFIC

7 National Councils



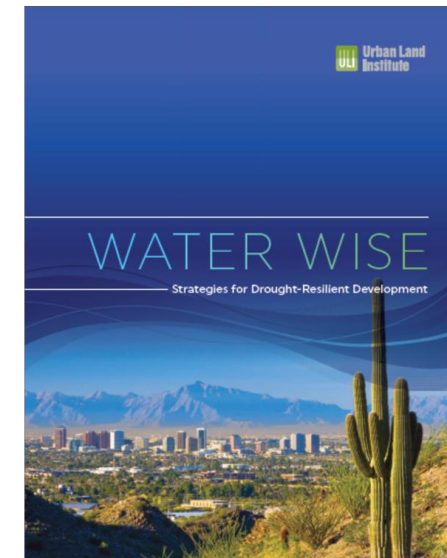
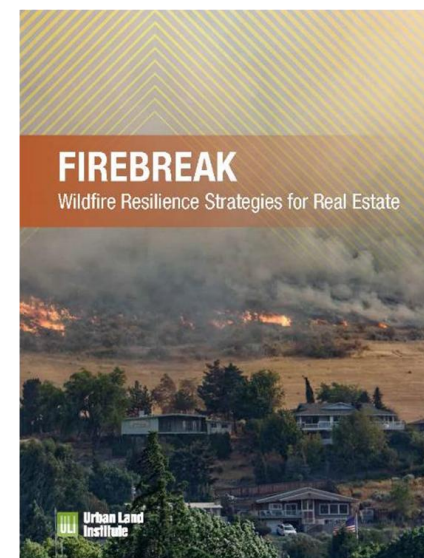
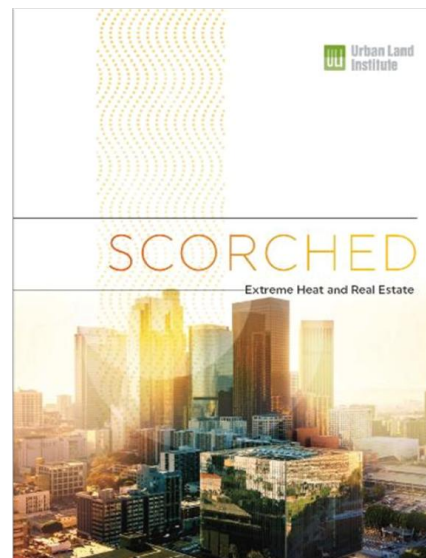
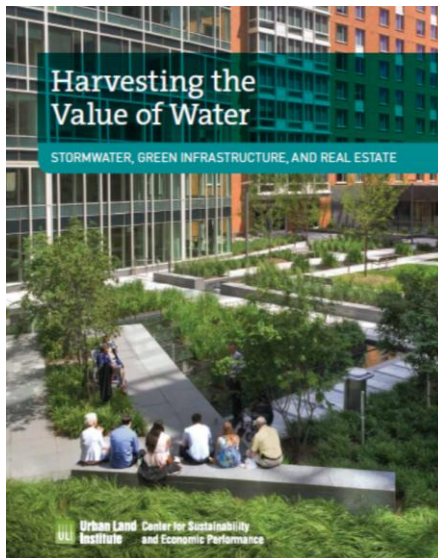
Over 46,000 Members



ULI's Urban Resilience Program

ULI's Urban Resilience program is focused on how buildings, cities and communities can be more resilient to the impacts of climate change and other environmental vulnerabilities.

- **Advance industry understanding of resilience:** Elevate understanding of resilience, climate risk, and the business case for climate resilience
- **Cultivate champions for resilience and catalyze resilience partnerships:** Build the skills needed to advance equitable resilience policy, funding, and development solutions
- **Support communities in becoming more climate resilient:** Advance resilient land use and development through technical assistance





The Alliance for Water Efficiency is a stakeholder-based nonprofit organization dedicated to the efficient and sustainable use of water.

Collaboration: Network of colleagues across water providers, governments, business and industry, researchers, nonprofits and other partners.

Knowledge: Creating and sharing resources, tools, trainings, expertise and research.

Change: Advocacy for funding, policies, and partnerships that advance water efficiency.

Contact:

Liesel Hans, Director of Programs
liesel@a4we.org

Learn more: www.a4we.org

Alliance *for* Water Efficiency



Sonoran Institute

Est. 1990

Our vision is a Colorado River Basin where rivers flow, landscapes are healthy, and all communities thrive.

Our mission is to connect people and communities with the natural resources that nourish and sustain them.

- ***Restore riparian habitat in the Colorado River delta.***
- ***Secure water to reconnect the Colorado River with its tributaries and the the sea.***
- ***Renew individual relationships with the River.***
- ***Train and assist communities in implementing water conservation, efficiency, reuse, and stormwater management practices.***

• *Growing Water Smart workshops in Colorado, Arizona, and soon California and along US/MX Border*



Waverly Klaw, Director, Growing Water Smart
wklaw@sonoraninstitute.org

www.sonoraninstitute.org

www.growingwatersmart.org

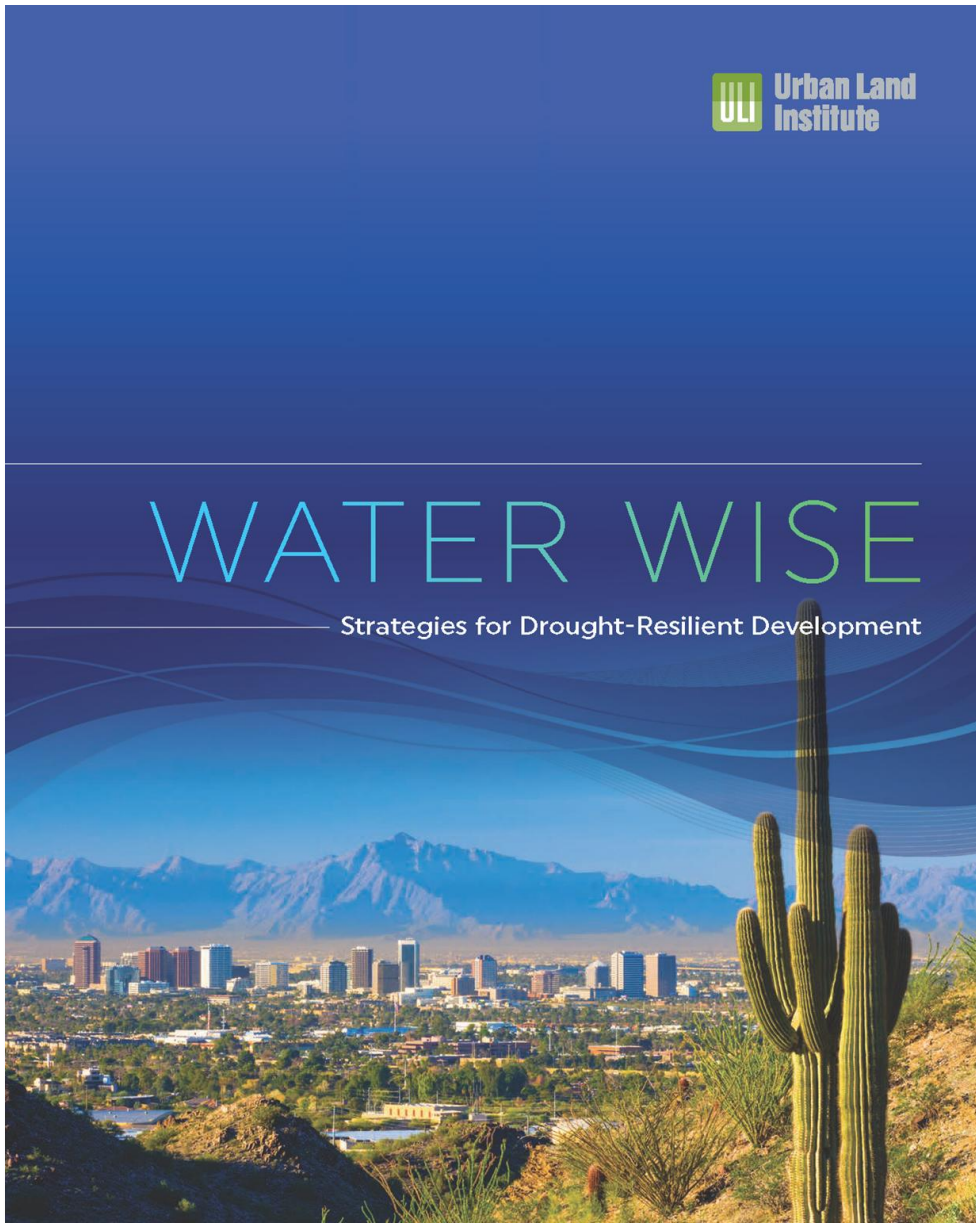


WaterNow Alliance is a nonprofit network of local water leaders advancing sustainable, affordable, equitable, and climate resilient water strategies.

- **Policy Advocacy** – to create pathways for sustainable and affordable strategies
- **Forum for Engagement** – to connect water leaders to ideas, resources, opportunities, and one another
- **Technical Assistance** – to implement projects on the ground

Victoria Arling, Colorado Basin Program Manager, va@waternow.org
Learn more at www.waternow.org





Water Wise Report

From ULI's Urban Resilience Program

Water Wise: Strategies for Drought-Resilient Development introduces the challenges and opportunities associated with drought and limited freshwater availability and provides best practices for real estate and land use professionals to address them.

Report includes:

- The science behind the increasing prevalence of **drought and its impacts**
- The **business case** for water-smart real estate development and landscaping
- **Strategies and best practices** for addressing water scarcity through water-smart development and landscaping
- **Public sector policies and practices** that can support responsible water use
- **Profiles of water-smart developments** and their outcomes

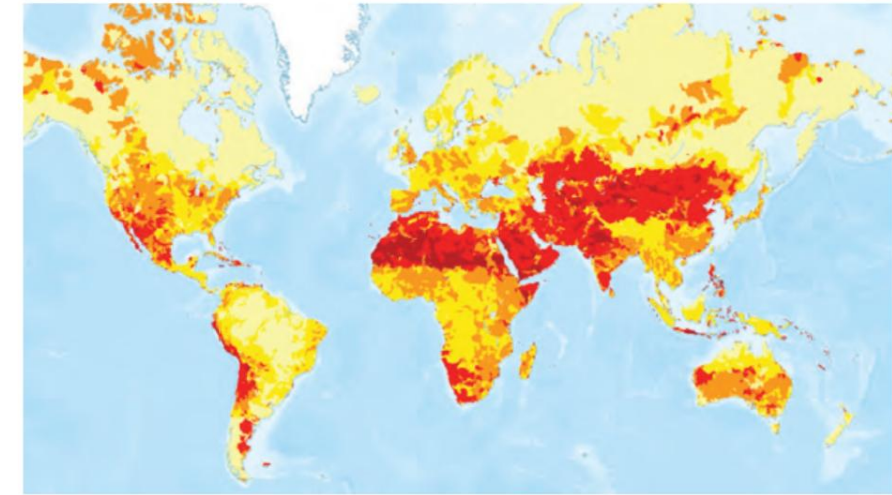
Available Now on Knowledge Finder

Why Being Water Wise Matters

Water Stress is Growing

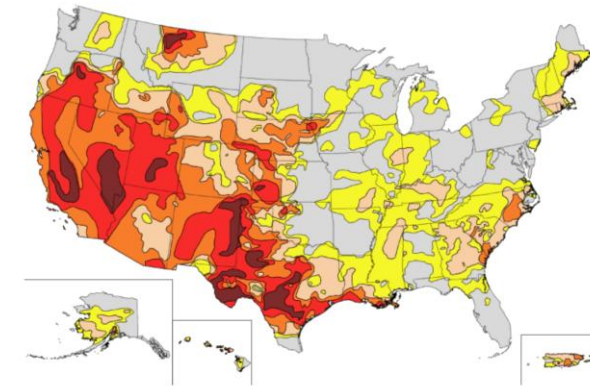
- The frequency, intensity, and duration of droughts are increasing, and this pattern is expected to continue with climate change.
- With the combination of water scarcity, population growth, and water quality issues, many communities are beginning to forecast an inability to accommodate future water needs.

GLOBAL WATER RISK



Source: World Resources Institute.

U.S. Drought Monitor



U.S. Drought Monitor Category

- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought

% of U.S.

64.9%
42.5%
27.6%
14.7%
3.2%

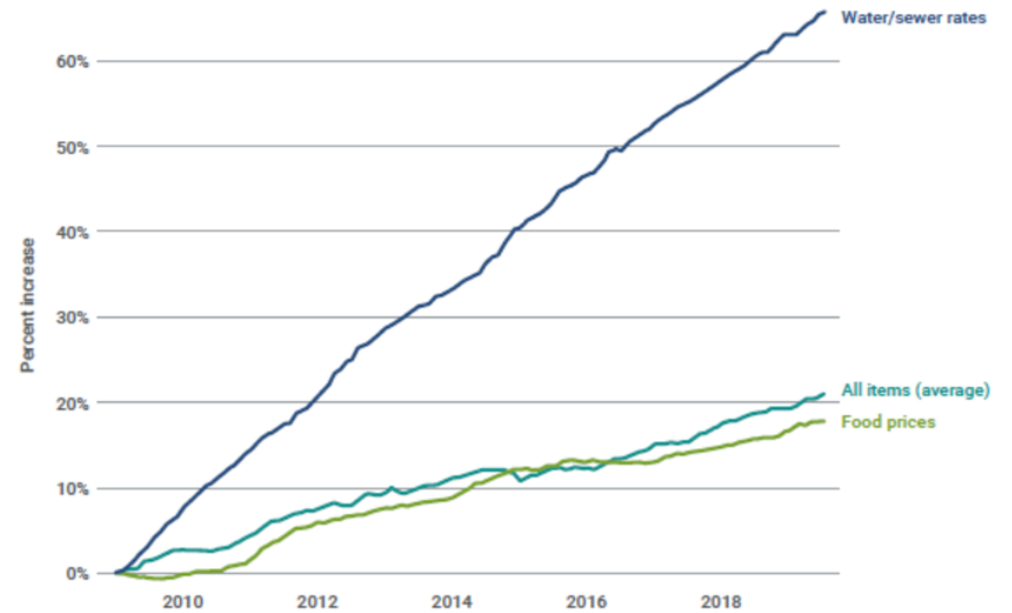
Source(s): NDMC, NOAA, USDA
Updates Weekly - 06/28/22

[Drought.gov](https://drought.gov)

The Business Case for Water Wise Development

- Investing in water efficiency and conservation measures at the site scale **mitigates the risks of water shortages, policy changes, and rising water prices** and **garners water and energy cost savings**, providing long-term value to owners and investors.
- Upfront investment in water and energy efficiency measures **increases asset value**, in some cases by 10 percent or more.
- Consumers are increasingly showing a preference** for water-efficient fixtures, appliances, buildings, and landscapes, especially in drought-prone regions.

RIISING WATER AND SEWER RATES IN THE UNITED STATES




Source: U.S. Bureau of Labor Statistics.

BUYERS ARE MOTIVATED TO LOOK FOR GREENER OPTIONS



Source: U.S. Environmental Protection Agency.



Strategies and best practices for addressing water scarcity through water-smart development and landscaping

Pre-Development Strategies

Water Wise Development

Overall, compact, infill, and water-efficient development accommodates growth without significantly increasing the burden on the local water system.

Pre-Development Strategies:

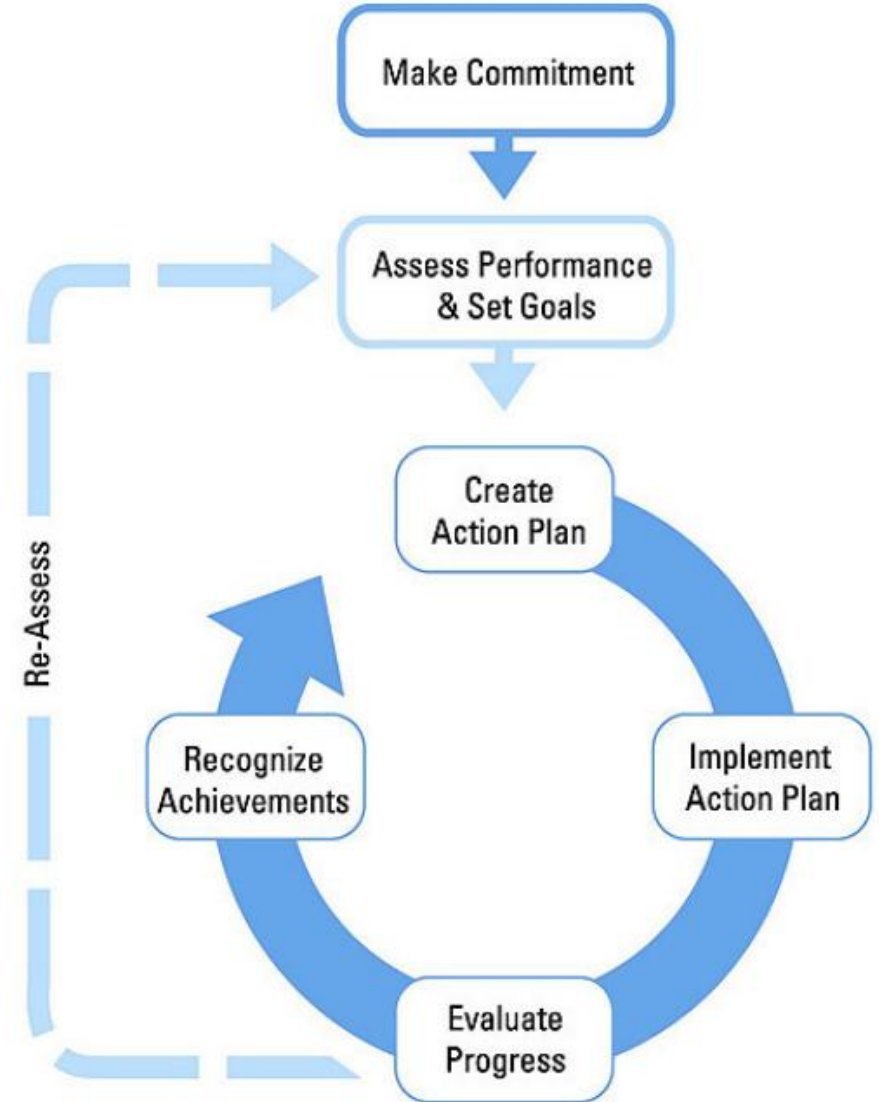
- Water-smart site selection (infill, compact, existing infrastructure)
- Water adequacy (sufficient water resources)
- Financing and underwriting water efficiency improvements (ESG & data)
- Design & Construction (create a Water Action Plan)



Create a Water Action Plan

This works in any sector, at any scale

1. Make a commitment
2. Assess water use
3. Set and communicate goals
4. Create a water action plan:
 - Identify projects and calculate costs and potential savings
 - Identify financing sources
 - Calculate simple payback
 - Prioritize projects
5. Implement the action plan
6. Evaluate progress
7. Recognize accomplishments



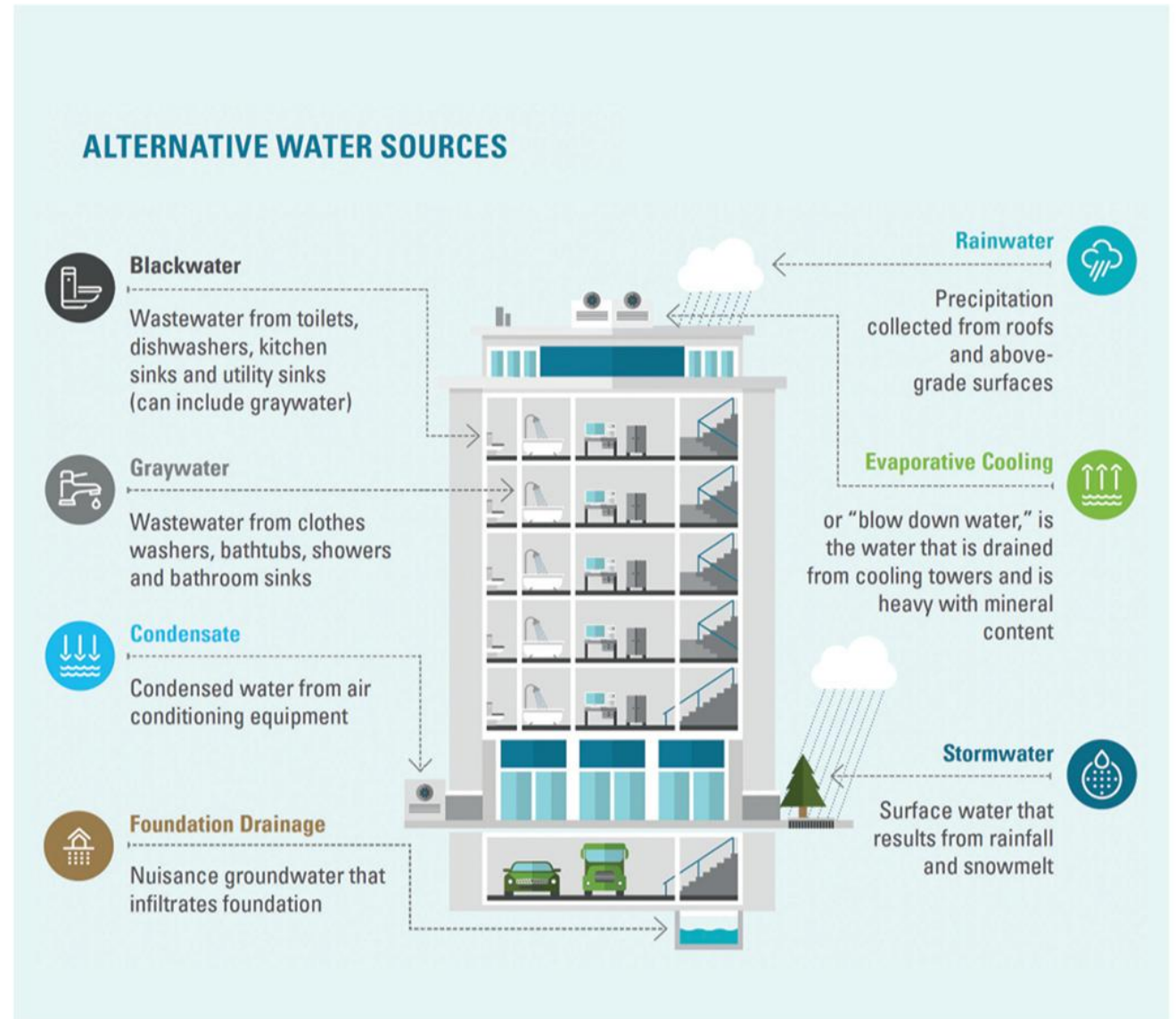
Indoor Strategies

Water Wise Buildings

Indoor water use has decreased by a significant margin due to the increased efficiency of water fixtures and appliances, but there is still a long way to go to realize the full potential savings across development types.

Indoor Strategies:

- Smart metering and submetering
- Leak detection and repair
- Water-efficient fixtures and appliances
- Water reuse



Source: William J Worthen Foundation.

This diagram shows the main alternative water sources available in a typical urban building.

Outdoor Strategies

Water Wise Landscaping

- Healthy soil
- Native and drought-tolerant plants
- Hydrozones
- Installation and maintenance of water-efficient irrigation systems
- Green infrastructure
- Permeable hardscapes

These strategies have a variety of benefits, including reduction of water demand, productive use of stormwater, decreased flood risk, and recharge of groundwater and local ecosystems.

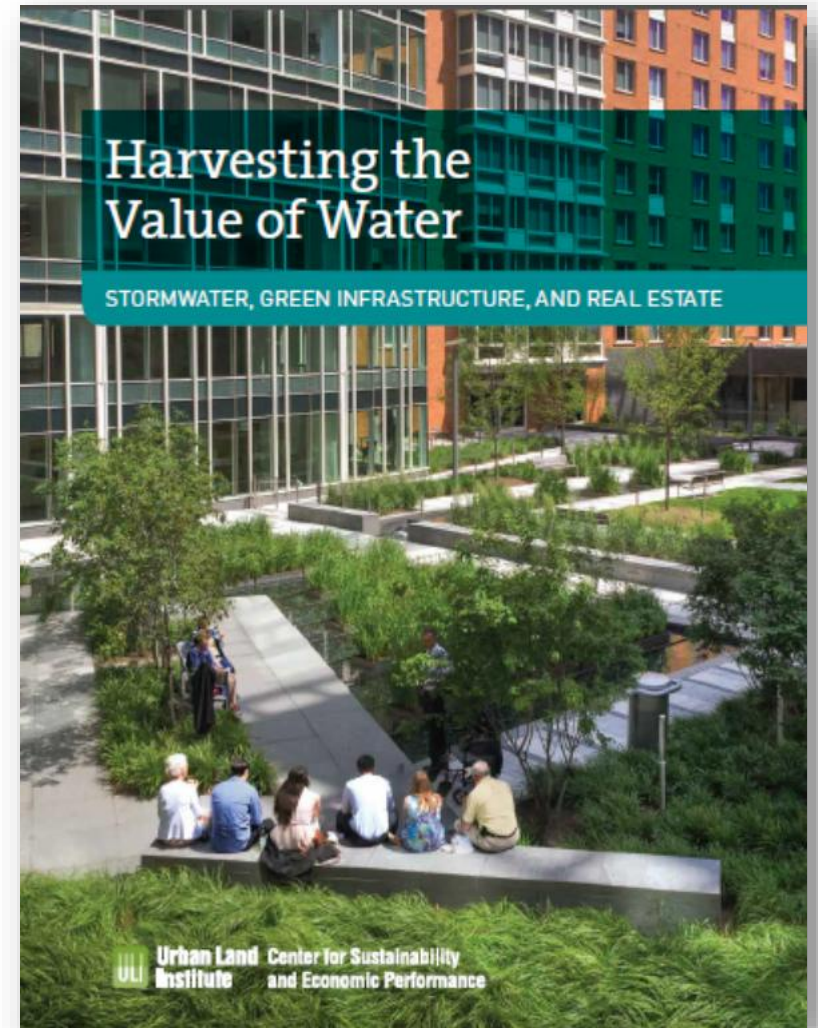


Green Infrastructure & Groundwater Recharge

Harvesting the Value of Water

ULI's report "Harvesting the Value of Water: Stormwater, Green Infrastructure, and Real Estate" explores the real estate sector's increased participation in stormwater management through the incorporation of green infrastructure.

It provides information about green infrastructure, its business case, and project profiles.



Ongoing Management Strategies

Water Wise Properties


Water management addresses water use in four primary areas:

- Reducing water losses (e.g., leaks)
- Increasing the water efficiency of fixtures, equipment, systems, and processes
- Educating colleagues and occupants about water efficiency to encourage water-saving behavior
- Managing on-site water reuse processes



BE WATER EFFICIENT
BECOME A QUALIFIED WATER EFFICIENT LANDSCAPER



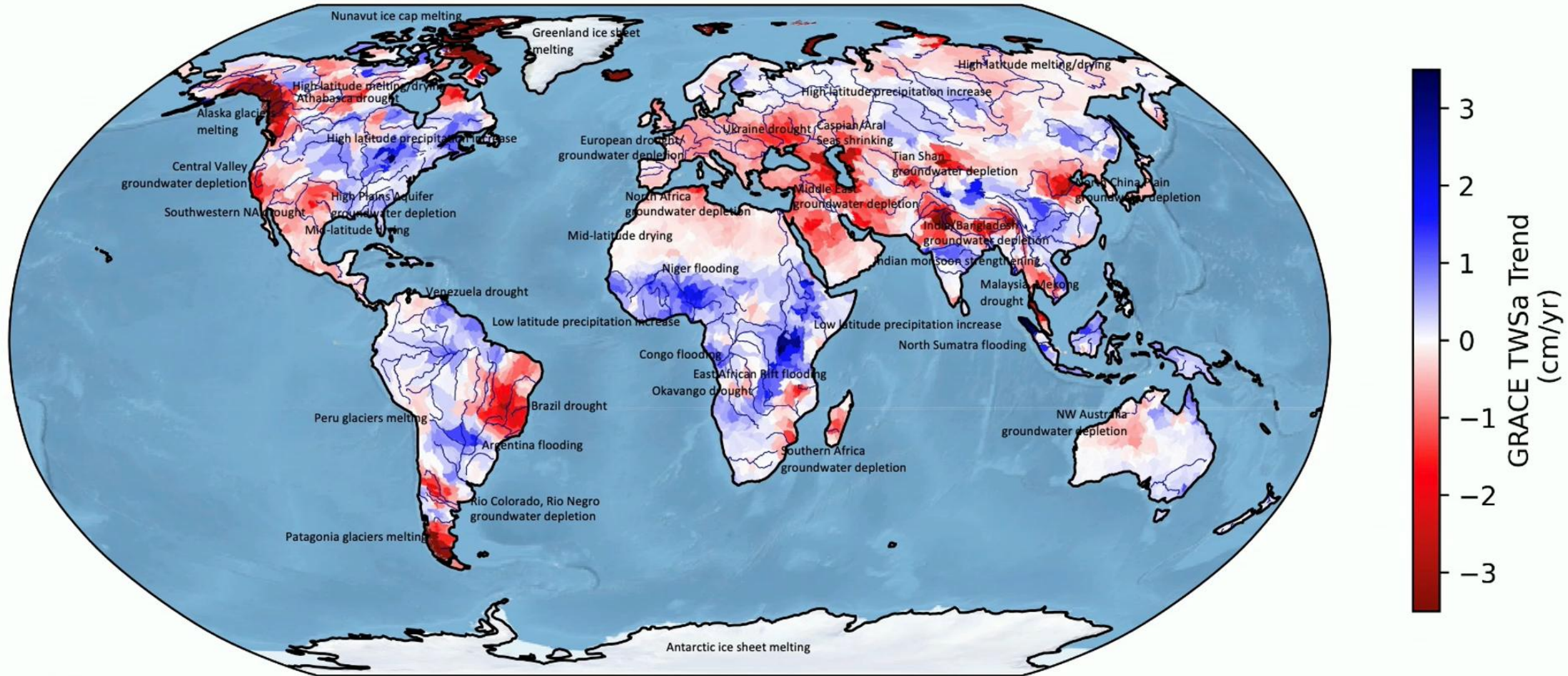


Public sector policies and practices that can support responsible water use

A global map of water's past...and future

Changing freshwater availability from NASA GRACE/FO (2002-2022)

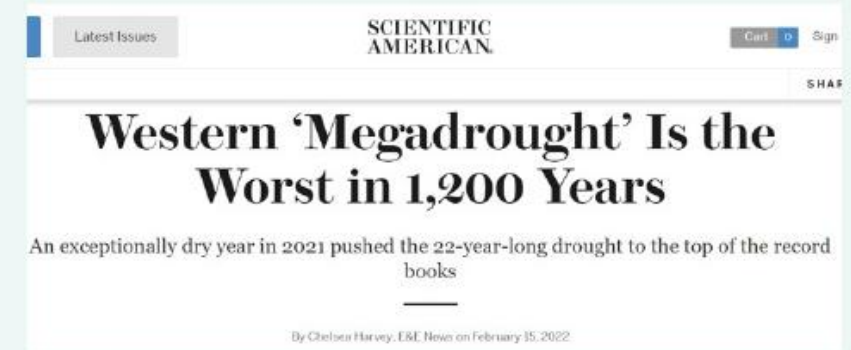
Rodell et al., 2018; Chandanpurkar et al., in preparation, 2022



The Drought Policy Landscape

Responses to Water Scarcity, Population Growth, and Water Quality Issues

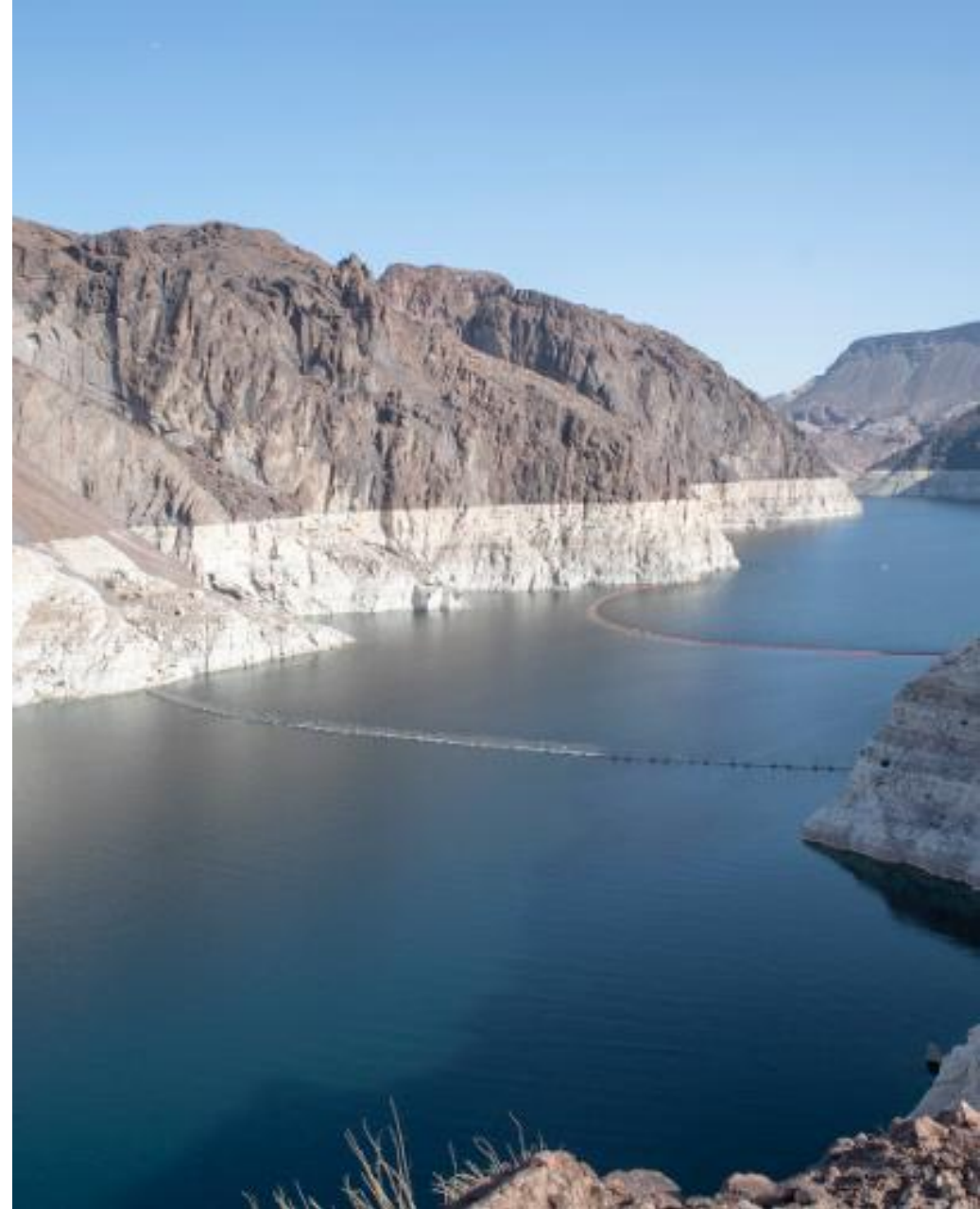
Public officials at all levels of government increasingly recognize drought as a threat to their communities and are enacting drought-related policies to address water stress.



Inflation Reduction Act

Generational Opportunity

- Most significant legislation in US history to tackle the climate crisis and strengthen American energy security
- \$4 billion for water management and conservation efforts in the Colorado River Basin and other areas
- \$500 million investment in long-term system efficiency improvements across UCB states
- How to leverage opportunity?
 - Funds will be administered by USBR over the next four years through existing and new program offerings
 - Contact: USBR.IR.Act@usbr.gov

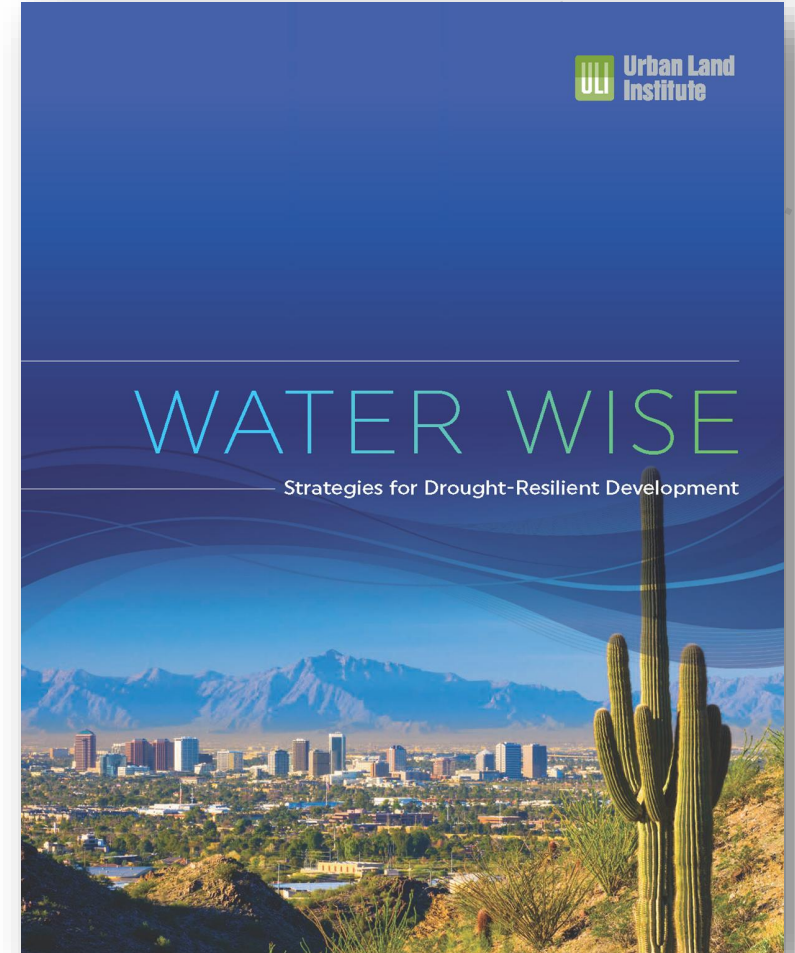


The Drought Policy Landscape

Policies that Support Water-Smart Development

To support sound policymaking, this report recommends:

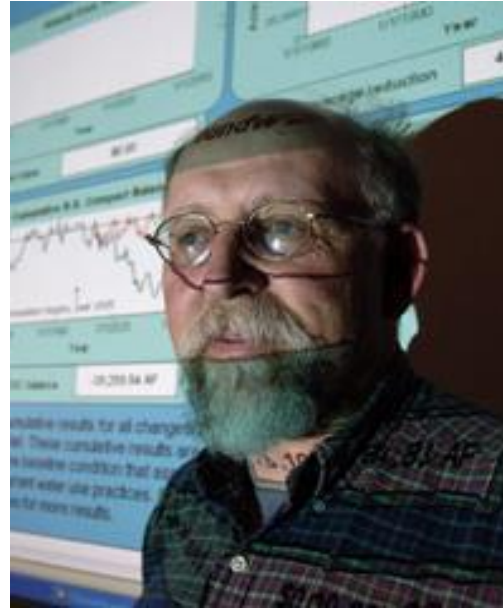
- Water and land use planning integration
- Water loss control (stop leaks)
- Water adequacy requirements for development
- Regional water reuse (economy of scale)
- Conservation-oriented water rate structures and tap fees (lower tap fees for water conservation)
- Public demonstration projects for water innovation (like water reuse)
- Public education about water conservation
- Collaborating across sectors to address drought



Breaking down silos.



Developers & Real Estate Professionals



Water Resource Professionals



Elected Officials and Land Use Planners, Economic Development



Cross-Sector Collaboration

Shifting the focus.

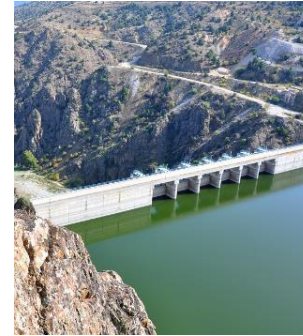
Supply-Side



Acquisition



Treatment



Storage/
Distribution

Gray Infrastructure



Infrastructure

Demand-Side



Conservation



Efficiency



Reuse

Green Infrastructure



Low-Impact
Development

Identifying the points of opportunity

Require water conservation & efficiency in building, site, and subdivision design.

- Zoning
- Subdivision
- Landscaping
- Building and Plumbing
- Adequate Water Supply
- Water Rights Dedication

Visioning & Planning

Establish goals and objectives integrating water and land use planning (incl. transportation, energy, food security).

- Comprehensive plans
- Water plans
- Sustainability plans
- Capital Improvement plans
- Annexation Policies

Water-Smart Land Use Policy

Empower developers to optimize water efficiency.

- Expedited Processes
- ROI (e.g. lower fees, density or FAR bonuses)
- Technical Assistance

Ensure efficiency through development review.

- Integrated Pre-Application meetings and plan review
- Development Agreements
- Inspections

Development Review & Collaboration

Encourage property managers to reduce water consumption.

- Education
- Rate Structuring
- Programs

Post- Occupancy Efficiency



Growing Water Smart

a collaborative, action-oriented 3-day workshop for the public sector.



Attend with an Inter-Disciplinary Team



Assess Current Conditions



Set Goals



Identify Opportunities



Develop a Water-Smart Message



Establish an Action Plan



Implement (with funding assistance)



A dimly lit office scene with several people. In the foreground, three people (two men and one woman) are looking at a tablet held by the woman. In the background, other people are working at desks with computers. The overall tone is professional and collaborative.

Key Takeaways

Why Being Water Wise Matters

Key Takeaways

- The overall lessons learned are that **saving water saves money and generates long-term value** for real estate assets, communities, and the environment.
- By working together across sectors on **water conservation, efficiency, and reuse**, we can protect our water future despite projected water shortages, population increases, and climate change.



“

If the 20th century was the age of dams, diversions, and depletion, the 21st century can be the age of replenishment, the time when we apply our ingenuity to living in balance with nature. In so doing, we can quench our own thirst while leaving a healthy water cycle for future generations.

SANDRA POSTEL
Replenish

Q&A

Marianne Eppig

Director, Resilience, Urban Land Institute

Marianne.Eppig@uli.org

Liesel Hans

Director of Programs, Alliance for Water Efficiency

liesel@a4we.org

Waverly Klaw

Director, Resilient Communities and Watersheds,
Sonoran Institute

wklaw@sonoraninstitute.org

Victoria Arling

Colorado Basin Program Manager, WaterNow
Alliance

va@waternow.org



Coalition Programming

Programming Discussion

For Quarterly Calls

- Presentation subjects?
- Requested speakers?
- Group work/brainstorming?
- What does success look like for the group?
 - Goal: advance water-smart development and supportive policies
- Scheduling quarterly calls (does this time work?)



Survey Results

Interests & Questions

- I would love to learn about new technologies, **how other groups are developing innovative water systems** and how we use our collective powers to influence and support municipal regulations, water quality, and more regenerative processes.
- I would like to improve my ability to **market and implement water-smart systems**.
- I'd like to learn about successful state efforts involving **policy, regulation** or any other mechanisms to **incentivize** and/or require water-smart development.
- I would like to work with others on **policy** (local codes) that can be implemented to promote resiliency of a growing community.
- Strategies for gaining **elected official buy-in** to potential programs and measures for water-smart development.
- The intersection of water-smart development and water law is a big challenge in the American West. **Water pricing and equity** is also of interest.
- I am interested in learning more about how to deal with the sometimes-conflicting **nexus between water-wise and fire-wise landscaping** moving forward in the west.

Survey Results

Expertise to Share

- **EPA WaterSense:** We could share how WaterSense can support water-efficient building.
- **Water Efficiency Rating Score (WERS) Development Group:** WERS was developed to help with this exact issue: land use planning and responsible water resource management. It allows policymakers to regulate efficiency in a way that retains some modicum of flexibility to the design/build community. The great thing is that it doesn't have to be utilized solely as a regulation. It could be used as an incentive, or at its very basic level, a marketing tool.
- **Sonoran Institute:** Opportunities for participation in **Growing Water Smart** workshops; sharing technical assistance opportunities and other resources.
- **Brendle Group:** My experience with developing sustainable design guidelines.
- **CO DOLA:** I would like to share what partners in the Colorado Water and Land Use Planning Alliance have developed as tools, resources, and opportunities. I would appreciate a continued discussion on how we can leverage each other's collaborative work towards impact in our communities.
- **Wharton School:** I'm working on a research project on how water policies in the Front Range in Colorado are affecting urban development, housing affordability, and water usage. I anticipate having some results to share this winter.
- **Denver Botanic Gardens:** I would like to share expertise on Landscape Policies for new development and existing landscapes.

Survey Results

Case Studies to Share

- I oversee all landscaping (residential, parks, amenities) for **Ivory Homes** (the largest home builder in Utah) and have worked with the local water conservancy districts to design and install all our projects with water saving landscape designs (about 1000 homes per year). Would love to continue to learn about more ways to do more and to also share what we've learned through this initiative over the last few years.
- **Thornton** participated in the Sonoran Institute's Growing Water Smart workshop last year. I can share how the workshop, among other factors, helped initiate ongoing changes to our development code. I would like to learn about what is working for other communities and how to overcome barriers to change.
- In my role at **BrightView**, I (and much of our team) am consistently engaged in best practice application for water conserving landscapes during the design, construction, and maintenance stages. Given our broad market exposure, we are consistently engaging with owners and properties that seek to consider the long-term water application and usage from the landscape perspective.

Programming Brainstorm

Let us know what you want for cohort meetings!

Cohort Programming Agenda	Subject Brainstorm
April/May/June 2023	Private sector case study presentations (Thrive, BrightView, Sterling Ranch)
July/Aug/Sept 2023	WaterSense Homes presentation, WERS presentation (Jonah, Mike, KB Home)
Oct/Nov/Dec 2023	Presentations on landscaping codes and templates (WaterNow, Northern Water, Denver Botanic Gardens, CSU, Lisa Pace, other states?, Benji Smith, Mike Diamond)
Jan/Feb/March 2024	Water wise policies, regulations, incentives (Waverly, AWE, Babbitt)
April/May/June 2024	Water pricing, tap fees, equity, and affordability (Benji Smith, AWE, WRA, CSU)
July/Aug/Sept 2024	One Water Approach + land use (US Water Alliance, Denver One Water, Tucson)
Oct/Nov/Dec 2024	Water reuse (Water Reuse Foundation, Pacific Institute)
	MLS listings? (adding water, energy, resilience scores)

Looking ahead

- Implement water wise best practices (& read the Water Wise report for guidance!)
- Help spread the word about the Water Wise Development Coalition!
- Join us for upcoming programs...





2023

RESILIENCE SUMMIT

MAY 15 | TORONTO

SCAN TO
LEARN MORE



Bringing together leaders in the fields of real estate and resilience to share practical solutions to protect communities and investment from climate risk

Early bird pricing available until March 8th

uli.org/resiliencesummit



**Hands-on support to
accelerate your
sustainable water program
Applications due
February 10**

<http://bit.ly/Project-Accelerator>



This round is open to **Colorado** communities!

<https://waternow.org/our-work/our-work-projects/project-accelerator/>



THANK YOU FOR JOINING US!

You can reach me at Marianne.Eppig@uli.org