



Smart Management for
Small Water Systems

Resilience: Planning on disaster and preparing for disruption

September 20, 2017 | Webinar

Brandy Espinola, Program Manager, University of Maryland

www.efcnetwork.org



American Water Works
Association

This program is made possible under a cooperative agreement with the U.S. EPA.



CEU Certificates

If you need a CEU certificate, you will need to confirm the following on the roster today before you leave:

- Is your name spelled correctly?
- Did you provide an email address UNIQUE TO YOU? A unique email address is required to access your certificate on the AWWA website.
- Did you mark the checkbox that you need a certificate?

Within 30 days of the training, you will receive an email with instructions to print your certificate. Emails from AWWA may be blocked or go to your Junk mail. To avoid this issue, add educationservices@awwa.org to your email Contacts or check your Junk mail frequently.

AWWA will apply to the water operator state licensing agency for CEU preapproval when applicable. You may be awarded CEUs by your agency. It is your responsibility to confirm with the agency that training meets relevancy criteria established for your license type as some agencies may not apply CEUs to your license if the training topic is not relevant to your position.

AWWA follows the IACET Standard of CEU calculation.

0.1 CEU = 1 Contact Hour or 1 Professional Development Hour

Questions? Please contact educationservices@awwa.org



About the Environmental Finance Center Network (EFCN)

The Environmental Finance Center Network (EFCN) is a university-based organization creating innovative solutions to the difficult how-to-pay issues of environmental protection and improvement. The EFCN works with the public and private sectors to promote sustainable environmental solutions while bolstering efforts to manage costs.

The Smart Management for Small Water Systems Program

This program is offered free of charge to all who are interested. The Program Team will conduct activities in every state, territory, and the Navajo Nation. All small drinking water systems are eligible to receive free training and technical assistance.

What We Offer

Individualized technical assistance, workshops, small group support, webinars, eLearning, online tools & resources, blogs



The Small Systems Program Team

- Environmental Finance Center at The University of North Carolina at Chapel Hill
- Environmental Finance Center at Wichita State University
- EFC West
- New England Environmental Finance Center at the University of Southern Maine
- Southwest Environmental Finance Center at the University of New Mexico
- Syracuse University Environmental Finance Center
- Environmental Finance Center at the University of Maryland
- American Water Works Association (AWWA)



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Environmental Finance Center



EFCWest
Environmental Finance Center West



New England
Environmental
Finance Center



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**Environmental
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Center**
Syracuse University



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American Water Works
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Areas of Expertise



Asset Management



Rate Setting and Fiscal Planning



Leadership Through Decision-making and Communication



Water Loss Reduction



Energy Management Planning



Accessing Infrastructure Financing Programs



Workforce Development



Water Conservation Finance and Management



Collaborating with Other Water Systems



Resiliency Planning



Managing Drought



Agenda

- Introduction to Resilience
- Trends in risks and threats for water systems
- Establishing a framework for planning ahead
- Implementing resilience strategies
- Resources and tools available to assist water system decision-makers
- Q&A

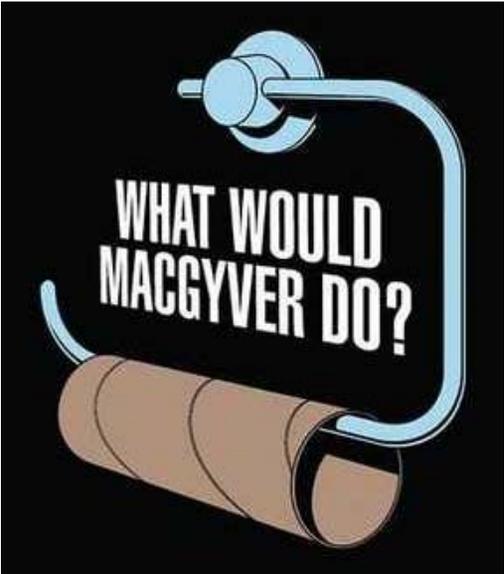
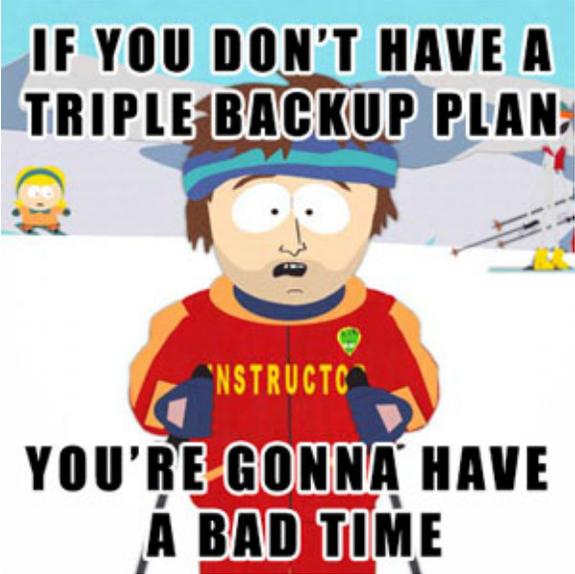


RESILIENCY:

the ability of a person or organization to anticipate, prepare for, and respond to change and sudden disruptions in order to survive and prosper.



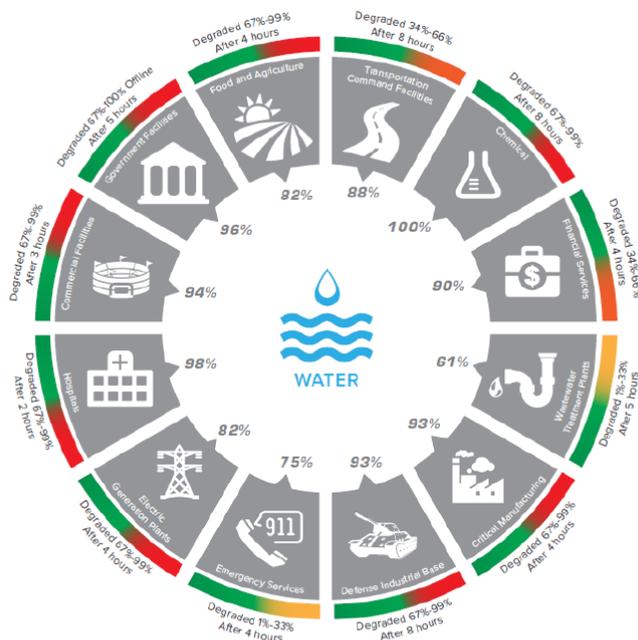
4 R's of Resiliency





Impacts to Critical Infrastructure

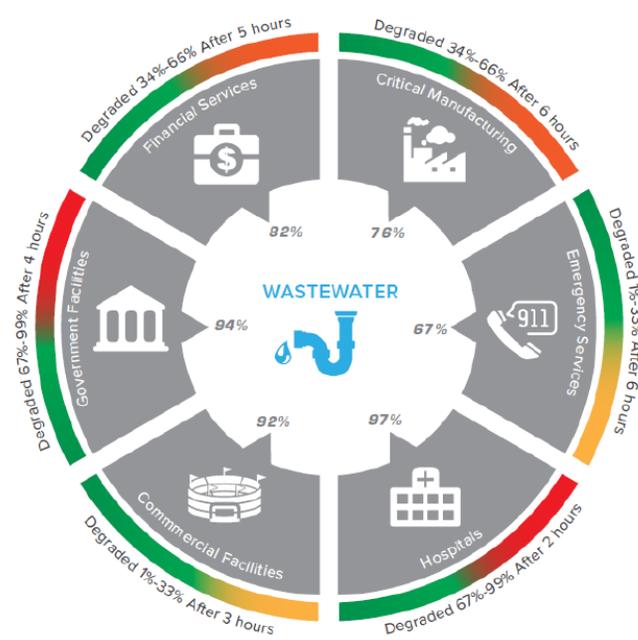
LOSS OF WATER SERVICES



Note: This data represents a majority (60 percent or greater) dependence on water.

FIGURE 3.—Critical Infrastructure Dependent on Water and Potential Functional Degradation Following a Loss of Water Services (Courtesy of DHS and Argonne National Laboratory).

LOSS OF WASTEWATER SERVICES



Note: This data represents a majority (60 percent or greater) dependence on wastewater services.

FIGURE 4.—Critical Infrastructure Dependent on Wastewater and Potential Functional Degradation Following a Loss of Wastewater Services (Courtesy of DHS and Argonne National Laboratory).

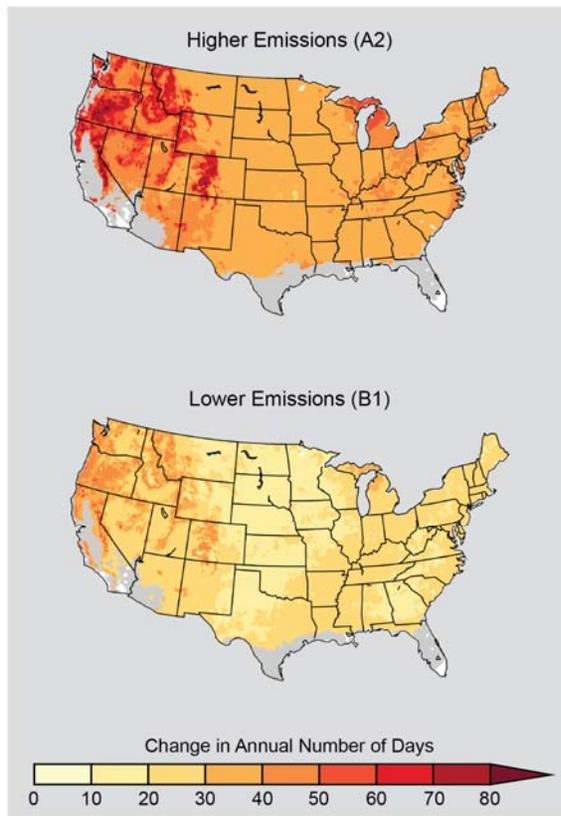


Threats and Extreme Weather



Increased Heat

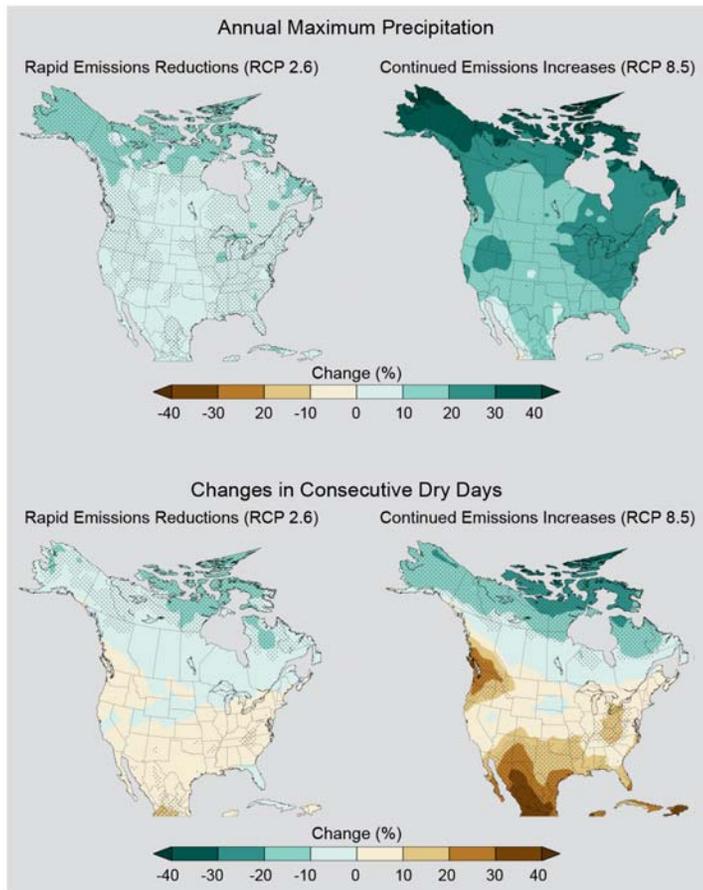
Projected Changes in Frost-Free Season Length



- Heat Stress
- Cardiovascular failure
- Air quality
- Water-borne diseases
- Vector-borne diseases



Changes in Precipitation



- Higher water demand for agriculture
- Drought
- Fires
- Increased stream flows
- Flooding



The Hard Sell





Waiting is Costly



○ Katrina ○ Oroville Dam ○ Flint ○ UCLA



Frameworks for planning ahead

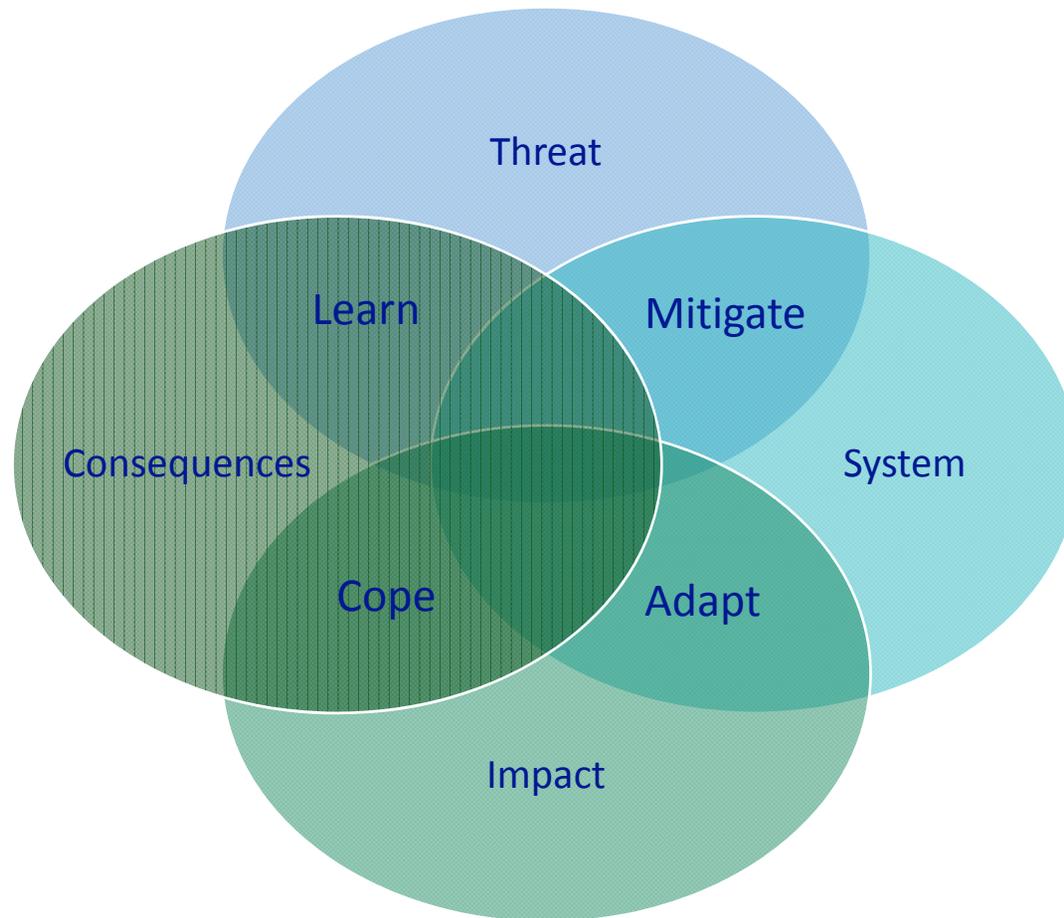


Adaptation Planning Process Steps



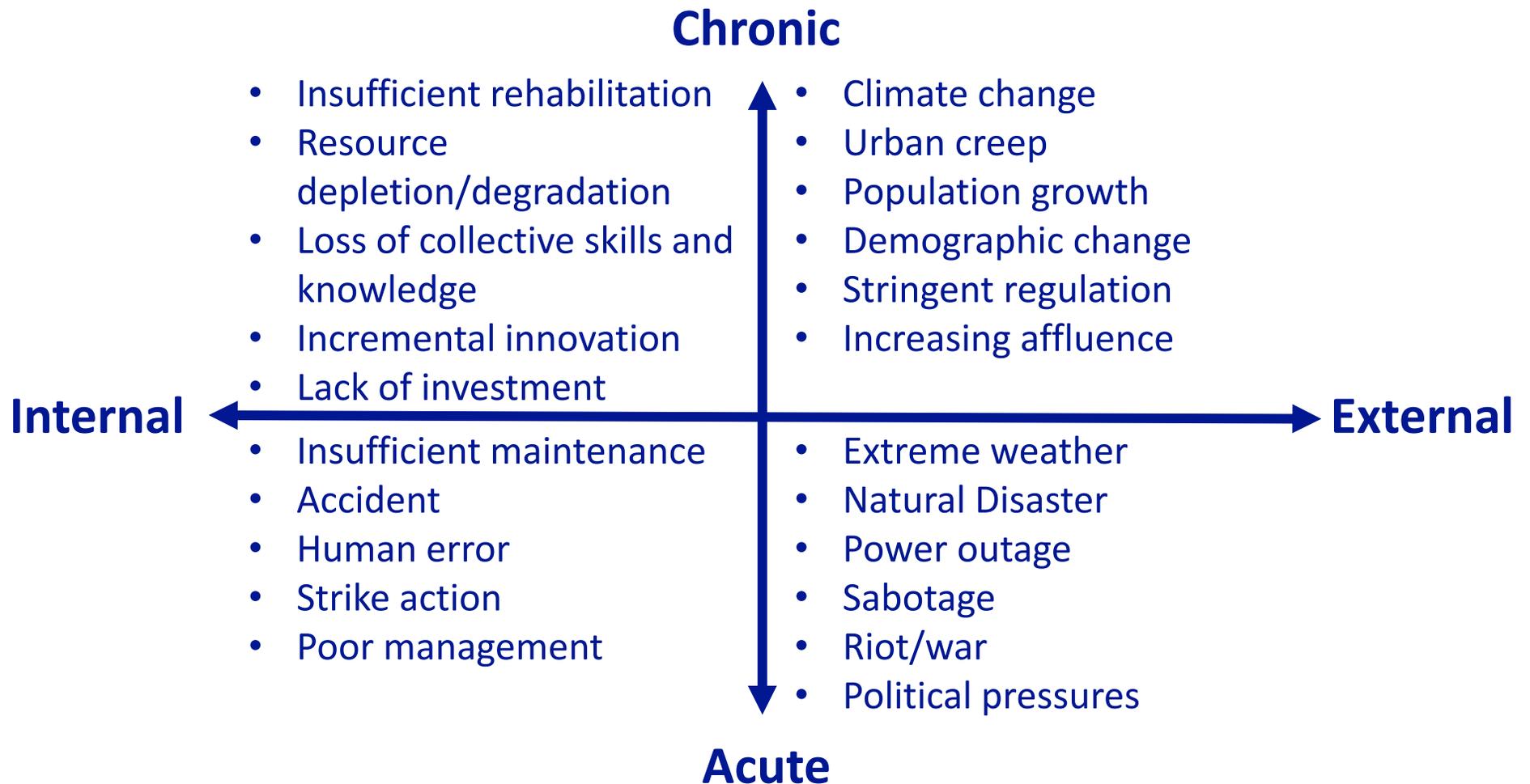


Safe and SuRe Approach



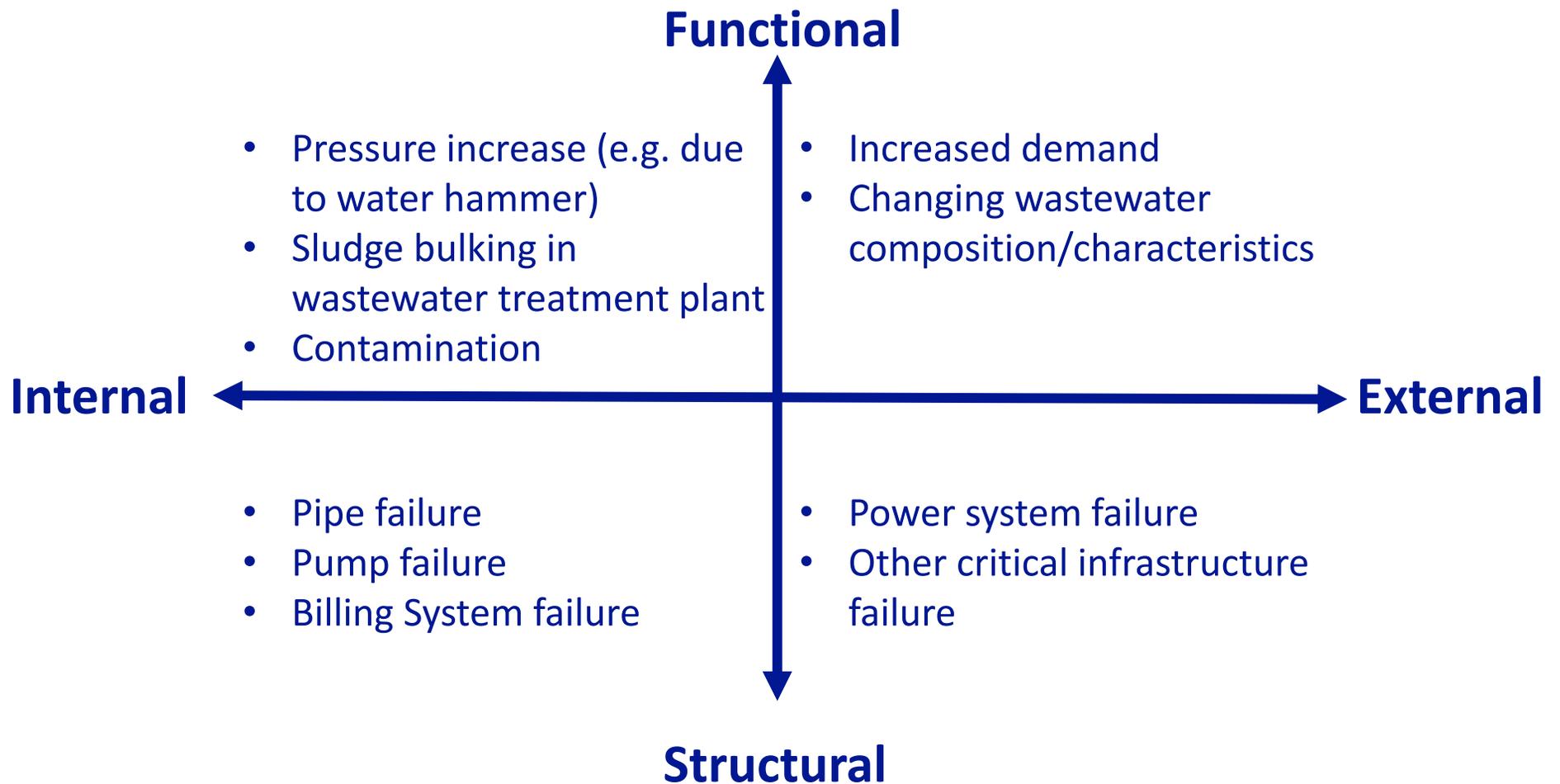


Threat Categorization



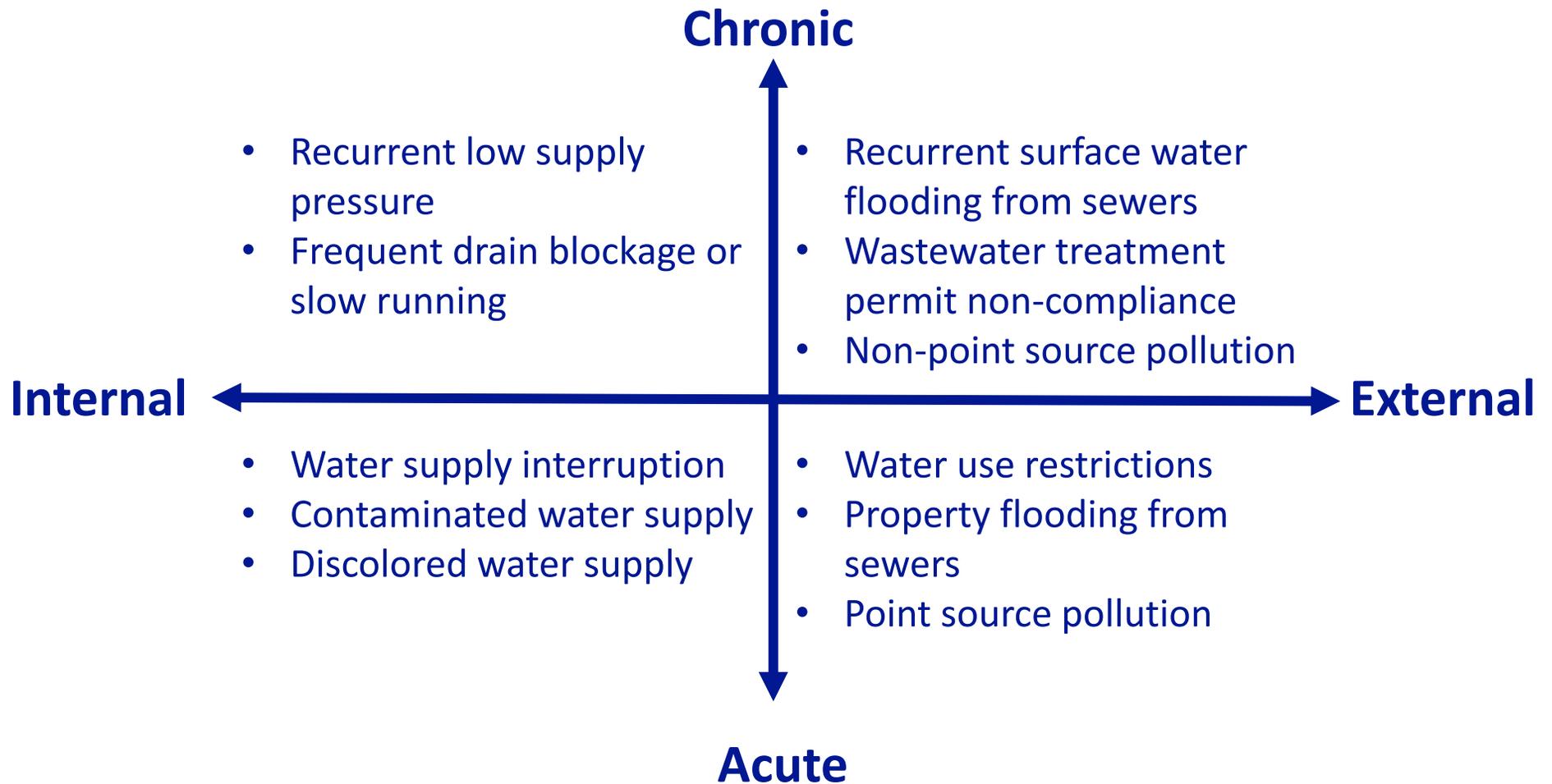


System Impacts



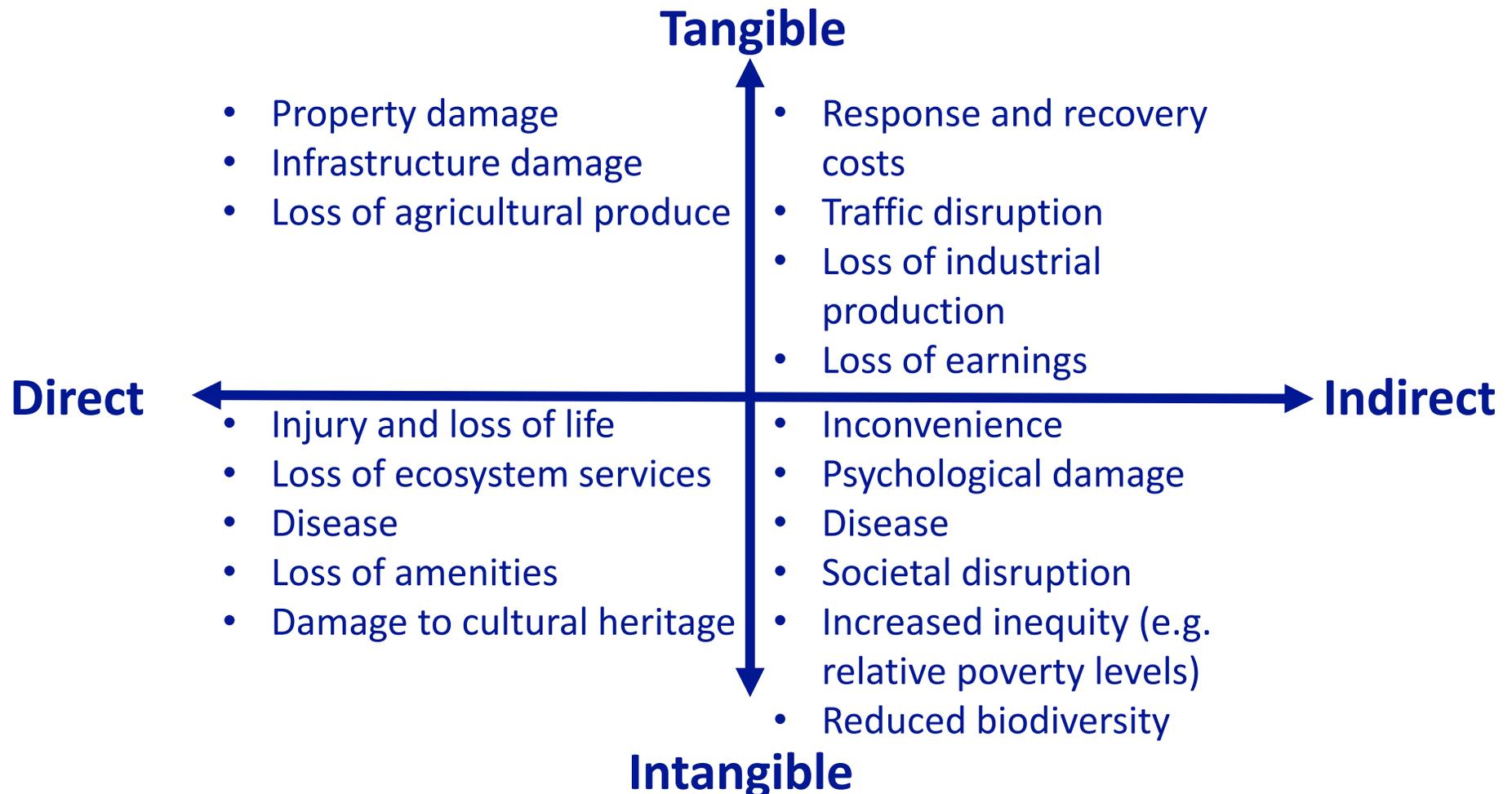


Service Impacts



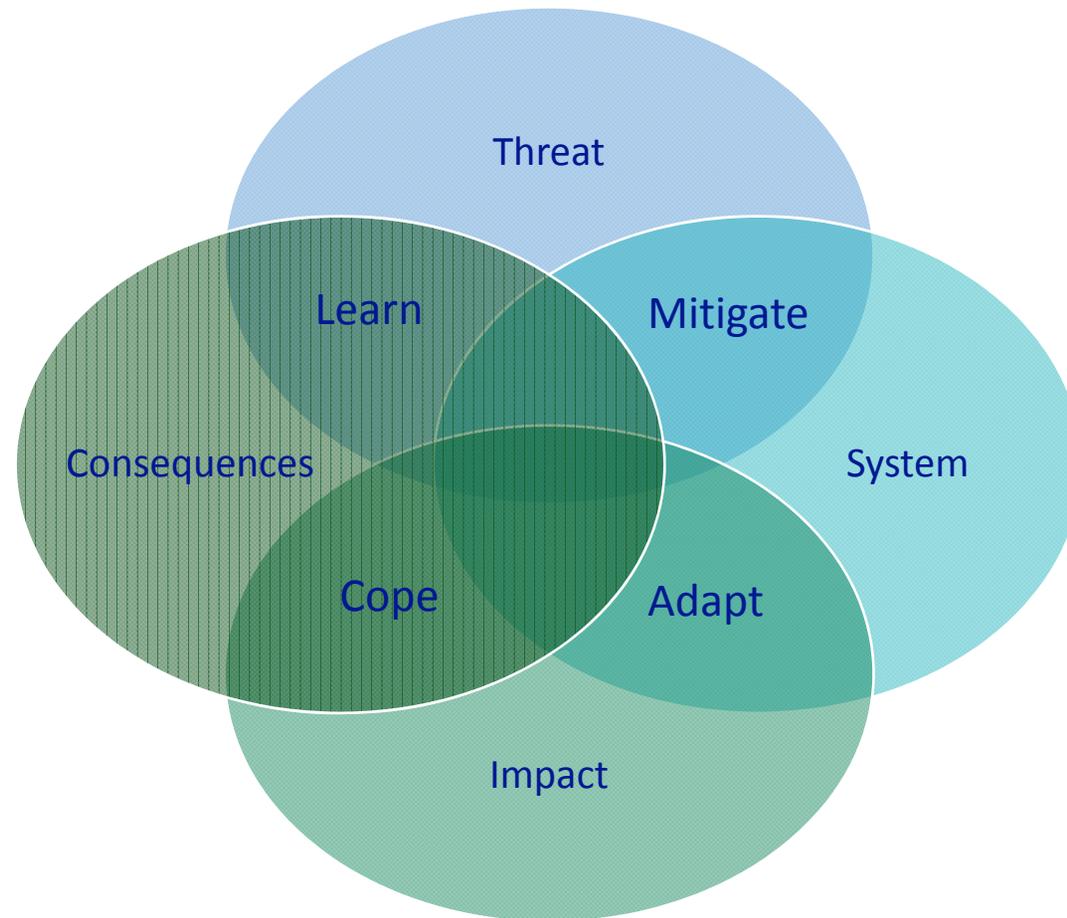


Consequences





Interventions to Consider





Example of Mitigation

| Quadrant | Threat | Mitigation Measure |
|------------------|-----------------------------|---|
| Internal-chronic | Insufficient rehabilitation | Accelerate asset replacement strategy |
| Internal- acute | Accidents | Develop safety culture |
| External-chronic | Urban creep | Enforce planning controls |
| External- acute | Extreme weather | Reduce greenhouse gas emissions of operations |



Example of Adaptation

| Quadrant | Threat | Mitigation Measure |
|----------------------|----------------------|---|
| Internal-functional | Sludge bulking | Operational modifications |
| Internal- structural | Pump failure | Provision backup pumps |
| External-functional | Increased demand | Promotion of water saving technologies and use of reclaimed water |
| External- structural | Changing regulations | Provision of additional treatment/new technologies, for example nutrient recovery |



Example of Coping

| Quadrant | Threat | Mitigation Measure |
|----------------------|-----------------------|-----------------------------|
| Direct- tangible | Property damage | Temporarily relocate |
| Direct- intangible | Spread of disease | Boil water |
| Indirect- tangible | Response and recovery | Purchase building insurance |
| Indirect- intangible | Reduced biodiversity | Re-introduce species |



Hazard Identification Vulnerability Analysis (HIVA)

- Check for pre-existing HIVA results for your jurisdiction
- Inventory incidents that have caused serious service interruptions during the past 20 years
- Identify vulnerable areas
- Research threats specific to your geography
- Develop response plans to most probable hazards
- Organize and train employees and leaders on scenarios



Consider these components in vulnerability assessment

- Distribution systems including pipes and constructed conveyances
- Physical barriers
- Water collection, pretreatment, and treatment facilities
- Use, storage, and handling of various chemicals
- Storage and distribution facilities
- Electronic, computer or other automated or cyber systems



Implementing Resilience Strategies



Flooding Impacts



- Regional interconnections
- Alternative power supplies
- Monitor and inspect infrastructure
- Elevate or flood-proof assets
- Join a mutual aid network



Changes in Seasonal Runoff

- Monitor
- Incorporate predictions of snowpack and runoff changes into models
- Update drought contingency plans
- Diversify water supplies
- Increase storage capacity
- Establish regional interconnections





Increased Runoff



- Green infrastructure
- Distributed systems
- Invest in watershed management
- Model potential stormwater impacts to your service area
- Monitor runoff, vegetation and land use changes



Stressed Sewer Systems



- Green infrastructure
- Acquire and manage existing ecosystems
- Reduce infiltration and inflow by managing assets
- Increase capacity or capabilities of wastewater treatment system and facilities
- Model potential stormwater impacts to your service area



Community and Economic Impacts



- Collaborate Discuss adaptation options with local businesses
- Communicate adaptation activities and plans to customers
- Become marketers
- Raise rates in an affordable and responsible way



Resources for Planning



Adaptation Strategies Guide for Water Utilities

| GROUP | | DW | WW |
|---------------------------|---|----|----|
| Drought | Reduced groundwater recharge | 💧 | |
| | Lower lake & reservoir levels | 💧 | |
| | Changes in seasonal runoff & loss of snowpack | 💧💧 | |
| Water Quality Degradation | Low flow conditions & altered water quality | | 💧💧 |
| | Saltwater intrusion into aquifers | 💧 | |
| | Altered surface water quality | 💧 | 💧 |
| Floods | High flow events & flooding | 💧💧 | 💧💧 |
| | Flooding from coastal storm surges | 💧💧 | 💧💧 |
| Ecosystem Changes | Loss of coastal landforms / wetlands | 💧💧 | 💧💧 |
| | Increased fire risk & altered vegetation | 💧 | 💧 |
| Service Demand & Use | Volume & temperature challenges | 💧💧 | 💧💧 |
| | Changes in agricultural water demand | 💧 | |
| | Changes in energy sector needs | 💧 | |
| | Changes in energy needs of utilities | 💧💧 | 💧💧 |



HIGH FLOW EVENTS AND FLOODING (DW)

[Return to Introduction](#)

Intense precipitation events may occur more frequently, concentrating the annual total rainfall into episodes that may challenge current infrastructure for water management and flood control. When these protections fail, inundation may disrupt service and damage infrastructure such as treatment plants, intake facilities and water conveyance and distribution systems. Episodic peak flows into reservoirs will strain the capacity of these systems. Furthermore, inflow will be of lesser quality due to soil erosion and contaminants from overland flows, leading to treatment challenges and degraded conditions in reservoirs.

CLIMATE INFORMATION

- Since 1991, the amount of rain falling in very heavy precipitation events has been above average across most of the United States (USGCRP 2014). This observed trend has been greatest in the Northeast, Midwest and Great Plains – projections for these regions indicate that 30% more precipitation will fall in very heavy rain events relative to the 1901-1960 average (Karl et al. 2009).
- Heavy downpours are increasing nationally, with especially large increases in the Midwest and Northeast (Kunkel et al. 2012, USGCRP 2014). Precipitation intensity (e.g., precipitation per rainy day) is projected to continue to increase by mid-century for most of the U.S. This change is expected even for regions that are projected to experience decreases in mean annual precipitation, such as the Southwest (Kunkel et al. 2012, Wehner 2013, USGCRP 2014).
- The increasing intensity of precipitation events can be expected to lead to more flooding and high flow events in rivers. For example, by the end of the century, New York City is projected to experience almost twice as many days of extreme precipitation that cause flood damage (Ntelekos et al. 2010). For the U.S. overall, a recent assessment of flood risks found that the odds of experiencing a 100-year flood are expected to double by 2030 (USGCRP 2014).
- The intensity, frequency and duration of North Atlantic hurricanes has increased in recent decades, and the intensity of these storms is likely to increase in this century (USGCRP 2014).

[Click to left of name to check off options for consideration; \\$'s \(\\$-\\$\\$\\$\) indicate relative costs](#)
[Click name of any option to review more information in the Glossary](#)

ADAPTATION OPTIONS

No Regrets options - actions that would provide benefits to the utility under current climate conditions as well as any future changes in climate. For more information on No Regrets options, see Page 11 in the Introduction.
[Click on the ? icon to review the relevant Sustainability Brief.](#)

| PLANNING | COST |
|---|-------------|
| Integrate flood management and modeling into land use planning. | \$ |
| Develop models to understand potential water quality changes (e.g., increased turbidity) and costs of resultant changes in treatment. | \$ |
| Expand current resources by developing regional water connections to allow for water trading in times of service disruption or shortage. | \$\$-\$\$\$ |
| Plan for alternative power supplies to support operations in case of loss of power. | \$ |
| Adopt insurance mechanisms and other financial instruments, such as catastrophe bonds, to protect against financial losses associated with infrastructure losses. | \$ |
| Conduct training for personnel in climate change impacts and adaptation. | \$ |
| Ensure that emergency response plans deal with flooding contingencies and include stakeholder engagement and communication. | \$ |
| Establish mutual aid agreements with neighboring utilities. | \$ |



Climate Change Workshop Planner

Workshop Planner Overview → Structure → Navigation → Help & Contact Information CLOSE TOUR ✕

Overview of the Workshop Planner for Climate Change and Extreme Events Adaptation

This tool assists drinking water and wastewater utility staff, technical assistance providers, community leaders and other stakeholders in conducting climate change adaptation workshops; it generates materials tailored to your location and provides helpful guidance for hosting a successful workshop.

Use this tour to obtain information on how to use the Workshop Planner or click the buttons below to start a new workshop.



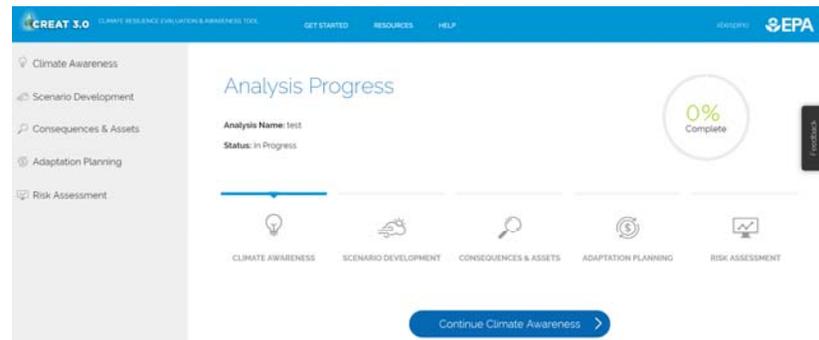
WORKSHOP PLANNER FOR Climate Change and Extreme Events Adaptation

Understanding and adapting to climate change threats is an important part of decision making for water, wastewater and stormwater utilities. Extreme events including floods, drought, sea-level rise, wildfires and reduced snowpack may become more frequent or intense due to climate change. Planning for these extreme events can help protect utility infrastructure and operations, allowing utilities to provide reliable and sustainable service to their customers.



Climate Resilience Evaluation and Awareness Tool (CREAT)

- Risk assessment tool
- Helps utilities in adapting to extreme weather events through a better understanding of current and future climate conditions.





Adaptation Case Studies

Adaptation Case Study and Information Exchange Creating Resilient Water Utilities

Welcome and Case Studies | Drought | Floods | Ecosystem Changes | Service Demand | Water Quality | Videos

Welcome to the U.S. Environmental Protection Agency's (EPA) Adaptation Case Study and Information Exchange, which has been developed under the Creating Resilient Water Utilities (CRWU) initiative.

This tool provides brief stories of adaptation planning efforts being conducted by water utilities across the United States. These utilities have shared their experiences and lessons learned to assist other water sector utilities currently responding to natural hazards and adapting to extreme weather.

EPA encourages utilities that are pursuing adaptation efforts of their own to share their story using this map.

[Click here to contact us if you would like to share your story](#)

How to use this map

Each point on this map represents a drinking water, wastewater or combined utility that has shared their story. Clicking on a point generates a pop-up box that provides the name, type and applicable climate threats facing a particular utility, as well as the corresponding actions that the utility plans to implement. Click on the tabs located at the top of the page to filter the utilities by priority concern.

If you'd like to know more and connect with any case study, click the 'More Information' link near the bottom of the pop-up to access a brief summary of the utility's story, including contact information for the utility.

To learn more about building resilience at your utility, please visit epa.gov/crwu.

Capital Region Water, Harrisburg, Pennsylvania

Type: Combined

Threats Addressed: Drought; Flood

Adaptive Measures Used: Green Infrastructure, Stakeholder Engagement, Equipment Retrofits, Flood Water Diversion

[More Information](#)

Sources: Esri, USGS, NOAA | Sources: Esri, DeLorme, USGS, NPS OVERVIEW MAP

<https://epa.maps.arcgis.com/apps/MapSeries/index.html?appid=bfe6b44929a8417b86aa7fd81d6857be>
New Hampshire example- <https://www.des.nh.gov/organization/divisions/water/dwgb/documents/wd-14-02.pdf>



Asset Management Resources



Taking Stock of Your Water System
A Simple Asset Inventory for Very Small Drinking Water Systems



EPA

**Reference Guide for
Asset Management Tools**

*Asset Management Plan Components
and Implementation Tools for
Small and Medium Sized Drinking
Water and Wastewater Systems*

May 2014



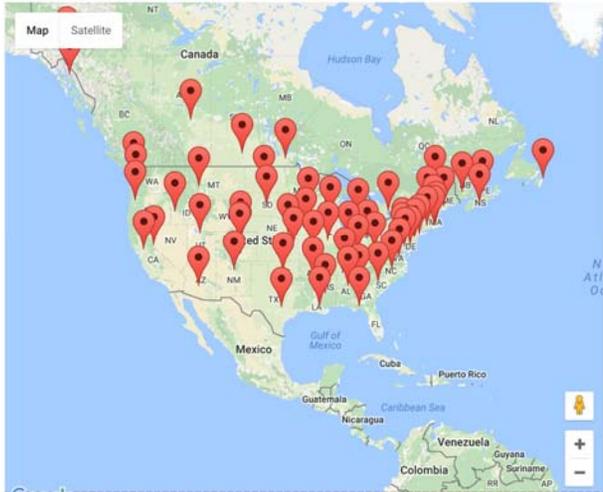
Information Sharing to Support Resilience

Water/Wastewater Agency Response Network (WARN)



A Water and Wastewater Agency Response Network is a network of utilities helping other utilities to respond to and recover from emergencies. The purpose of a WARN is to provide a method whereby water/wastewater utilities that have sustained or anticipate damages from natural or human-caused incidents can provide and receive emergency aid and assistance in the form of personnel, equipment, materials and other associated services as necessary from other water/wastewater utilities.

Click a pin to view contact information for the local WARN representative, with a link to more information about that state and region. You can also view current [Situation Reports](#).



Water Information Sharing and Analysis Center (WaterISAC)





Q&A

- Brandy Espinola
- Program Manager, University of Maryland Environmental Finance Center
- bespinol@umd.edu
- 301.314.9491



Visit the EFCN Website – www.efcnetwork.org

for more information on upcoming events, funding, and resources.

The screenshot shows the EFCN website header with the logo and tagline "Innovative Finance Solutions for Environmental Services". Below the header is a navigation menu with links for HOME, ABOUT, WORKSHOPS & WEBINARS, ASSISTANCE, RESOURCES, BLOG, ARCHIVES, and a search icon. Below the navigation is a large blue banner with yellow text and graphics. The banner features a person thinking on the left and a person working on a laptop on the right, connected by a dashed line. The main text in the banner reads: "Get Free Help Now! Small water systems can request free technical assistance from our experts on finance and management challenges. 'The thing about working with the EFCN is availability; I can call anytime with a quick question or to get outside advice.'"

EFCN Innovative Finance Solutions for Environmental Services

HOME ABOUT WORKSHOPS & WEBINARS ASSISTANCE RESOURCES BLOG ARCHIVES Q

Get Free Help Now!

Small water systems can request free technical assistance from our experts on finance and management challenges.

"The thing about working with the EFCN is availability; I can call anytime with a quick question or to get outside advice."





Upcoming Events Calendar

Select “Upcoming Events” under the Workshops & Webinars Tab.

The screenshot shows the EFCN website header with the logo and tagline "Innovative Finance Solutions for Environmental Services". The navigation menu includes: HOME, ABOUT, WORKSHOPS & WEBINARS, ASSISTANCE, RESOURCES, BLOG, and ARCHIVES. A search icon is also present. The "WORKSHOPS & WEBINARS" menu is expanded, showing a sub-menu with "Upcoming Events" (highlighted with a yellow box), "Past Events", and "Past Training Locations".

Upcoming Events





= In Person Event



= Webinar

| Type | Date/Time | Event |
|---|---------------------------------|---|
|  | 03/09/2017 2:00 pm - 3:00 pm | WEBINAR Preparing Winning Financing Applications for Water Infrastructure Projects |
|  | 03/22/2017 2:00 pm - 3:00 pm | WEBINAR Water Audits and Water Loss Control: Entering Your Data into the Spreadsheet |
|  | 03/30/2017 9:00 am - 4:30 pm | Maryland Rates and Finance Workshop for Small Water Systems <i>Easton Utilities, Easton MD</i> |
|  | 04/04/2017 1:00 pm - 2:00 pm | WEBINAR: Workforce Development: An Overview of Key Components |
|  | 05/11/2017 9:00 am - 4:30 pm | Virginia Rates and Finance Workshop for Small Systems <i>The Institute for Advanced Learning and Research, Danville Virginia</i> |
|  | 05/25/2017 9:00 am - 4:30 pm | Arkansas Rates and Finance Workshop for Small Water Systems <i>Beaver Water District, Lowell AR</i> |
|  | 09/13/2017 9:00 am - 4:30 pm | Pennsylvania Rates and Finance Workshop for Small Water Systems <i>Pennsylvania American Water Co, New Castle PA</i> |



Funding Tables By State

Select “Funding Sources by State” under the Resources Tab.

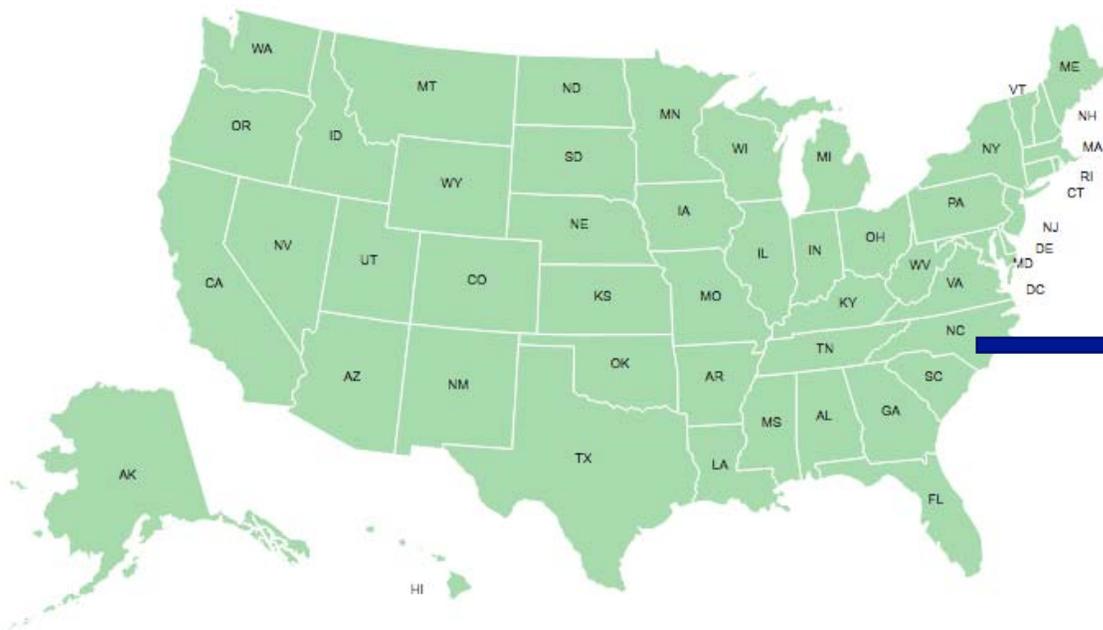
The screenshot shows the EFCN website header with the logo and tagline "Innovative Finance Solutions for Environmental Services". The navigation menu includes "HOME", "ABOUT", "WORKSHOPS & WEBINARS", "ASSISTANCE", "RESOURCES", "BLOG", and "ARCHIVES". The "RESOURCES" dropdown menu is open, showing "Resource Library", "E-Learning Modules", "Funding Sources by State" (highlighted with a yellow box), and "Map of Water and Wastewater Rates Dashboards". Below the navigation is a large blue banner with the text "Get Free Help Now!" and "Small water systems can request free technical assistance from our experts on finance and management challenges." A testimonial quote is also visible: "The thing about working with the EFCN is availability; I can call anytime with a quick question or to get outside advice."



Funding Sources by State

Note: Some states may have additional resources listed below the map.

Click on the map below to view funding sources for each state:



Click on an individual state to view funding table.

Oregon Water and Wastewater Funding Sources
March 2015, Version 2.0

| Organization | Program | Purpose or Use of Funds | Application Site | Website | Contact |
|--|--|--|-------------------------------------|---|--|
| Oregon Health Division | Safe Drinking Water Funding Support Fund | Provides grant funding to assist local public health departments with drinking water monitoring, testing, and reporting. Funds are awarded on a competitive basis. | http://www.ohd.org/DrinkingWater | http://www.ohd.org/DrinkingWater | Drinking Water Program 700 NE Oregon Street Portland, OR 97232 503.325.7000 |
| Oregon Department of Environmental Quality | Drinking Water State Revolving Fund | Provides grant funding to assist local public health departments with drinking water monitoring, testing, and reporting. Funds are awarded on a competitive basis. | http://www.deq.or.gov/DrinkingWater | http://www.deq.or.gov/DrinkingWater | Drinking Water Program 700 NE Oregon Street Portland, OR 97232 503.325.7000 |
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Request Technical Assistance

Select “Request Assistance” under the Assistance Tab off the EFCN homepage to access and submit the TA request form electronically.



REQUEST ASSISTANCE

Technical Assistance Request Form

The EFCN offers free help on financial and managerial topics to systems serving 10,000 or fewer people. Examples of assistance we can provide include:

- Creating an Asset management plan
- Near-term financial planning and rate setting
- Analyzing your revenues and expenses
- Offering ideas on how to effectively budget
- Long-term capital planning
- Assessing options for lowering energy use and/or water loss
- Identifying sources of outside funding
- Collaborating with other water systems
- Resiliency Planning

If you are interested in requesting assistance from our experts, please fill out the form below. You will be asked a few questions to help us understand your water system and what kind of assistance you need.



Rates Dashboards

Select “Map of Water and Wastewater Rates Dashboards” under the Resources Tab, and click on any state in blue to view its dashboard.

EFCN Innovative Finance Solutions for Environmental Services

HOME ABOUT ▾ WORKSHOPS & WEBINARS ▾ ASSISTANCE ▾ RESOURCES ▾ BLOG ▾ ARCHIVES ▾ 🔍

🏠 > MAP OF WATER AND WASTEWATER RATES DASHBOARDS

Map of Water and Wastewater Rates Dashboards

This map shows Water and Wastewater Rates Dashboards created by the EFCN:

Click a state in blue to view its dashboard



E-Learning Modules

Select “E-Learning Modules” under the Resources Tab off the EFCN homepage.

The screenshot shows the EFCN website header with the logo and tagline "Innovative Finance Solutions for Environmental Services". The navigation menu includes: HOME, ABOUT, WORKSHOPS & WEBINARS, ASSISTANCE, RESOURCES, BLOG, ARCHIVES, and a search icon. The "RESOURCES" dropdown menu is open, showing options: Resource Library, E-Learning Modules (highlighted with a yellow box), Funding Sources by State, and Map of Water and Wastewater Rates Dashboards. Below the navigation, a breadcrumb trail reads: > TRAININGS > E-LEARNING MODULES. The main heading "E-Learning Modules" is partially visible.

As part of its continued effort to provide resources and training to small water systems, the Environmental Finance Network is creating E-Learning modules on finance and management topics for system managers.

E-Learning modules provide training through pre-recorded content. You will be able to access the content, watch presentations, complete quizzes and exercises, and access tools and resources at your own pace.

Financial Sustainability for Small Systems

[Click Here to Access the Course on AWWA's website](#)

This eLearning course is made possible through a USEPA grant for small systems training in conjunction with the EFCN's training partner, AWWA.



Resource Library

Select “Resource Library” under the Resources Tab off the EFCN homepage.

The screenshot shows the EFCN website header with the logo and tagline "Innovative Finance Solutions for Environmental Services". The navigation menu includes: HOME, ABOUT, WORKSHOPS & WEBINARS, ASSISTANCE, RESOURCES, BLOG, and ARCHIVES. The "RESOURCES" menu is open, showing a list of options: Resource Library, E-Learning Modules, Funding Sources by State, and Map of Water and Wastewater Rates Dashboards. The "Resource Library" option is highlighted with a yellow border. Below the navigation, a breadcrumb trail shows "RESOURCE LIBRARY". The main heading "Resource Libr" is partially visible.

[View All Tools](#) | [View All Publications](#) | [View All Posts](#)

For an overview of some of the tools and resources available in our Resource Library, please view our [Tools and Resources flyer](#).

What does your system need help with?

+ We treat more water than we sell.



Resource Library Continued...

Click on a what your system needs help with to reveal tools and publications related to that topic.

× We have insufficient revenue to cover our costs.

Tools

| | |
|---|---|
| February 16, 2017 Online Water Rate Checkup Tool | November 7, 2016 Modelo de Análisis para las Tarifas de Agua y Aguas Residuale |
| February 17, 2016 Water Utility Customer Assistance Program Cost Estimation Tool | January 26, 2016 Financial Health Checkup for Water Utilities |
| September 3, 2014 Water & Wastewater Residential Rates Affordability Assessment Tool | August 15, 2013 Rates and Financial Benchmarking Dashboards |
| December 16, 2012 Plan to Pay: Scenarios to Fund your C.I.P. | November 20, 2012 Water & Wastewater Rates Analysis Model |
| November 15, 2012 Dashboard for Using Capital Reserve Fund to Avoid Rate Shock | November 4, 2012 Loan Analysis Tool |

Publications

| | |
|---|---|
| April 14, 2014 Rural and Small Systems Guidebook to Sustainable Utility Management | August 29, 2013 Setting Small Drinking Water System Rates for a Sustainable Future |
| August 29, 2013 Asset Management: A Handbook for Small Water Systems | August 27, 2013 Designing Rate Structures that Support Your Objectives |



Smart Management for
Small Water Systems

**Thank you for participating today, and we
hope to see you at a future workshop!**

www.efcnetwork.org



American Water Works
Association