

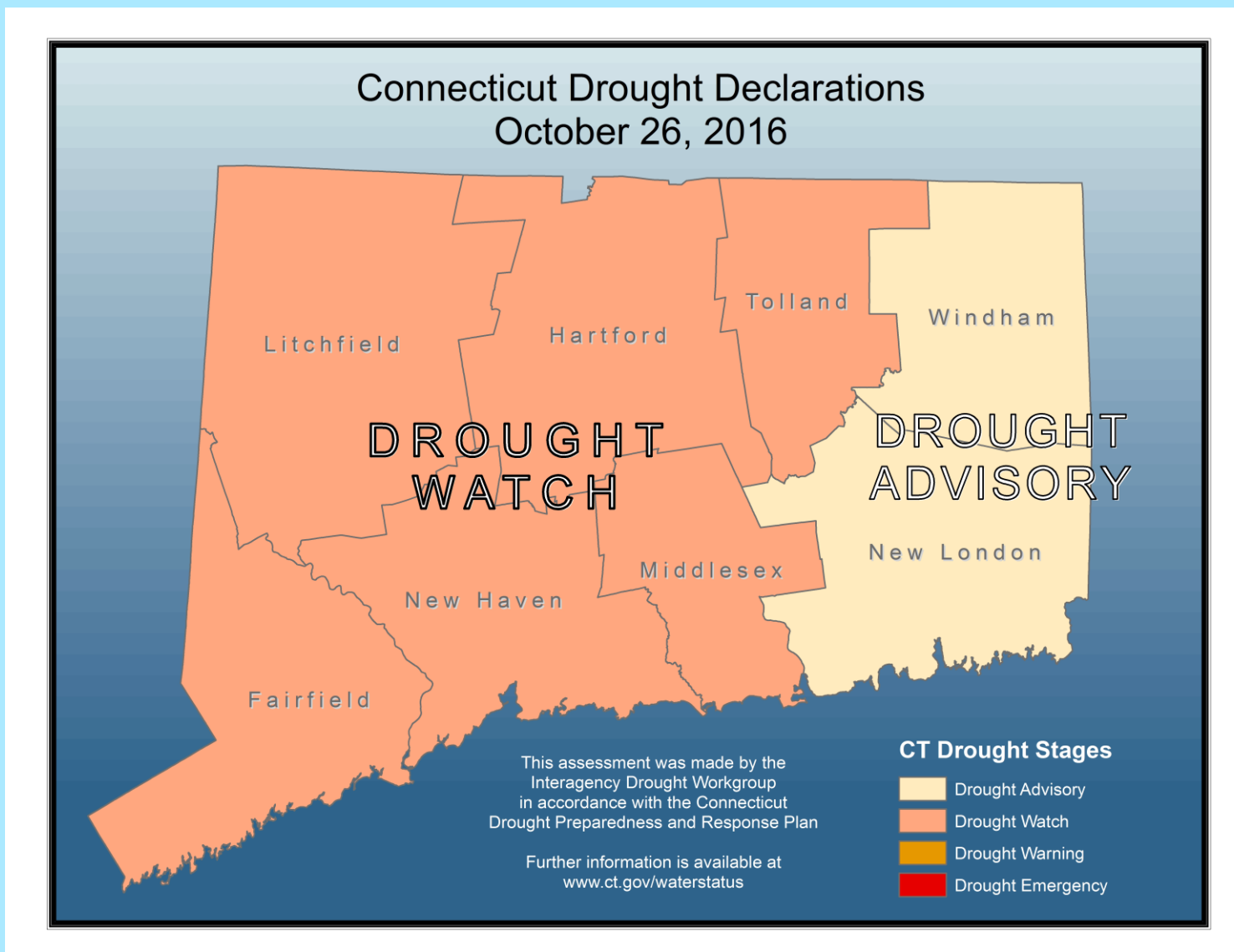
Developing a Drinking Water Resiliency Plan for Connecticut

The effects of climate change, including storms and droughts, create problems for the management of public drinking water systems. This project combines the efforts of the Connecticut Institute for Resilience and Climate Adaptation (CIRCA), Milone & MacBroom Inc. (MMI), and UConn in partnership with the Department of Public Health (DPH) to assess the vulnerability of Connecticut's drinking water infrastructure and develop a Drinking Water Resilience Plan (DWRP) aimed at decreasing the impact of extreme events and climate change. Specifically, we:

1. Assess current and future vulnerabilities across CT's drinking water systems, from private wells to large community water systems (CWSs) through analysis of critical facilities and interconnections, interviews, surveys, and mapping to identify resilience gaps – the difference between what can and is being done.
2. Review resilience components of CT's emergency response plans, laws, and policies for drinking water systems.
3. Prepare a high-level implementation plan, the DWRP, that identifies adaptation strategies to address vulnerabilities and improve resiliency.

The Challenge: Vulnerable drinking water systems

Connecticut's drinking water systems face challenges from a non-stationary climate. Droughts present long term stress for systems.



State of CT (2016)

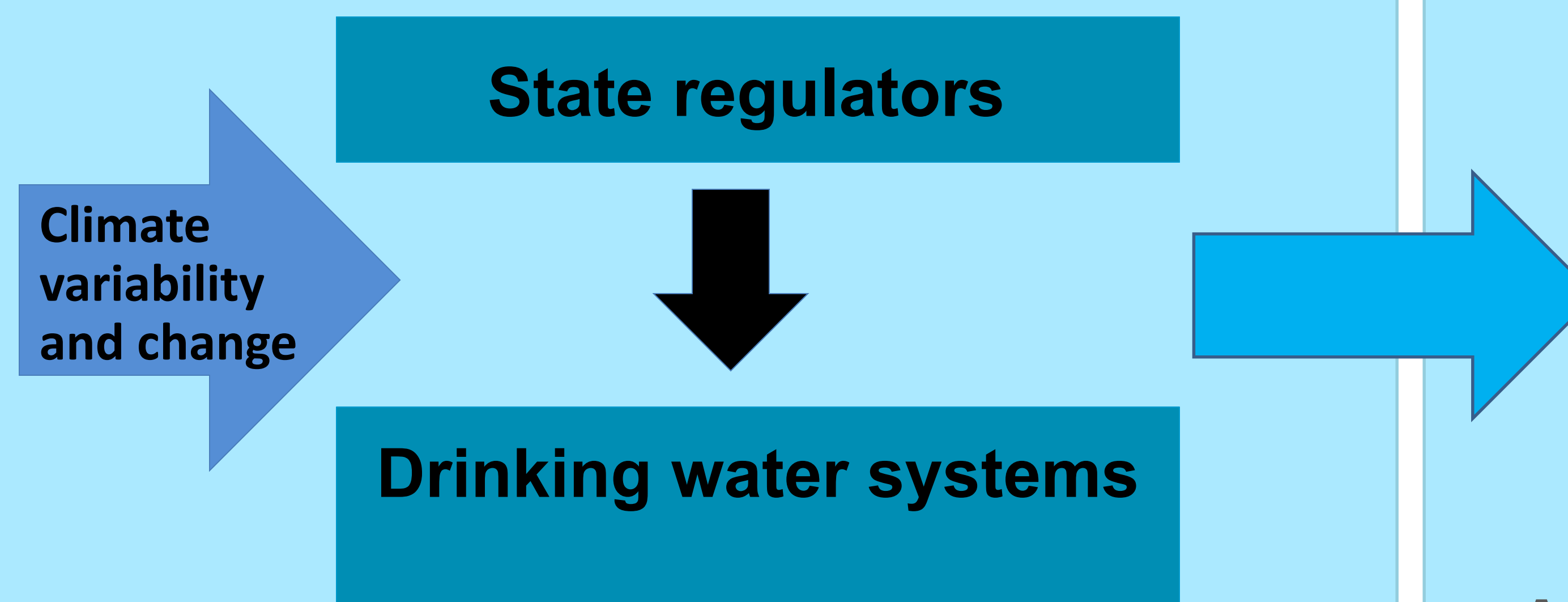
Power outages and flooding from extreme weather events represent acute stresses for the management of drinking water systems.



Flooded street in Milford, CT after Sandy
CNN (2012)

Our Approach: Explore the role of governance in adaptive capacity and resilience

Traditional, top-down governance structures and conventional management struggle in the face of climate extremes and climate change.



Adaptive, rather than top-down, forms of governance are necessary to respond to climate stresses.

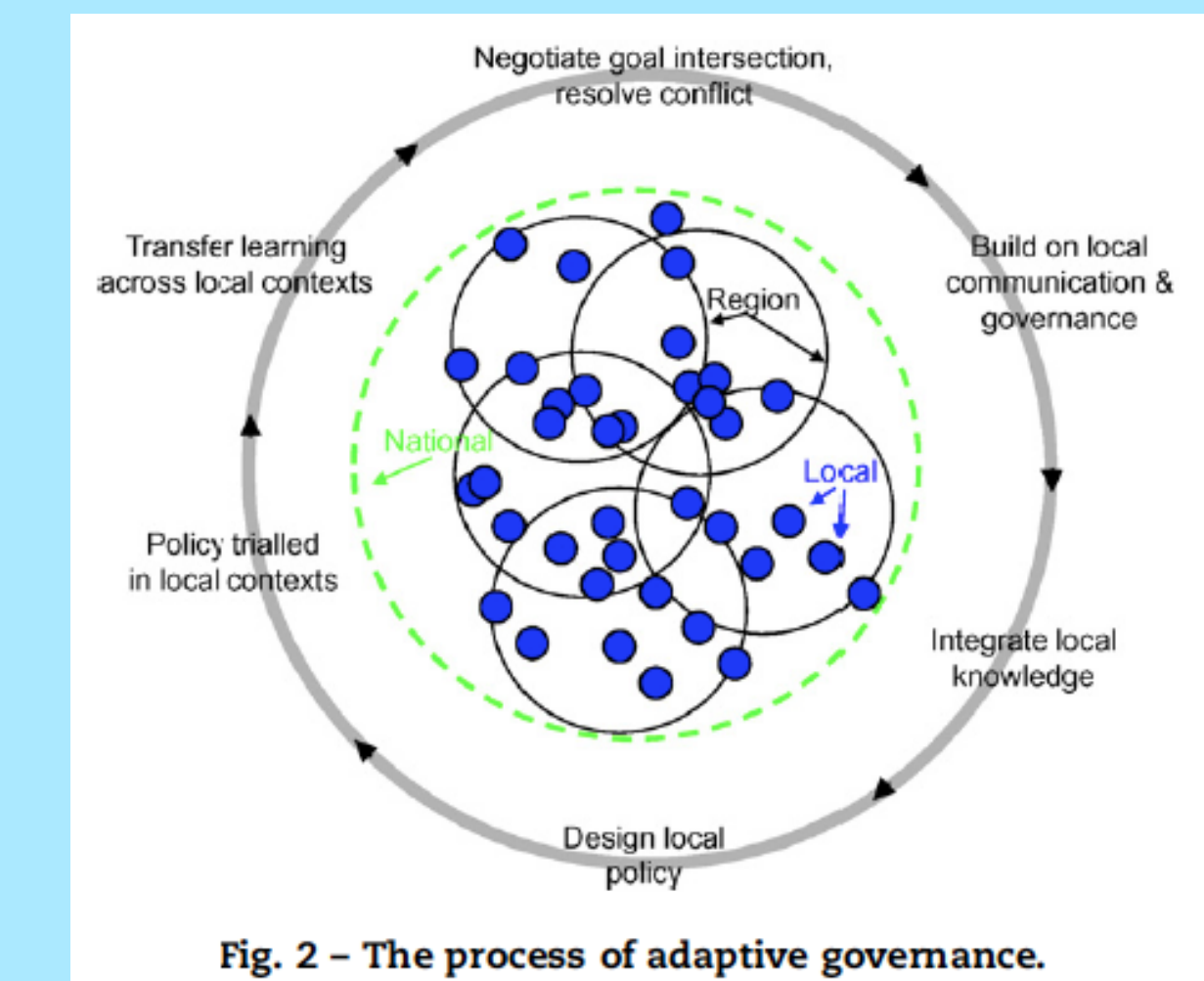


Fig. 2 - The process of adaptive governance.

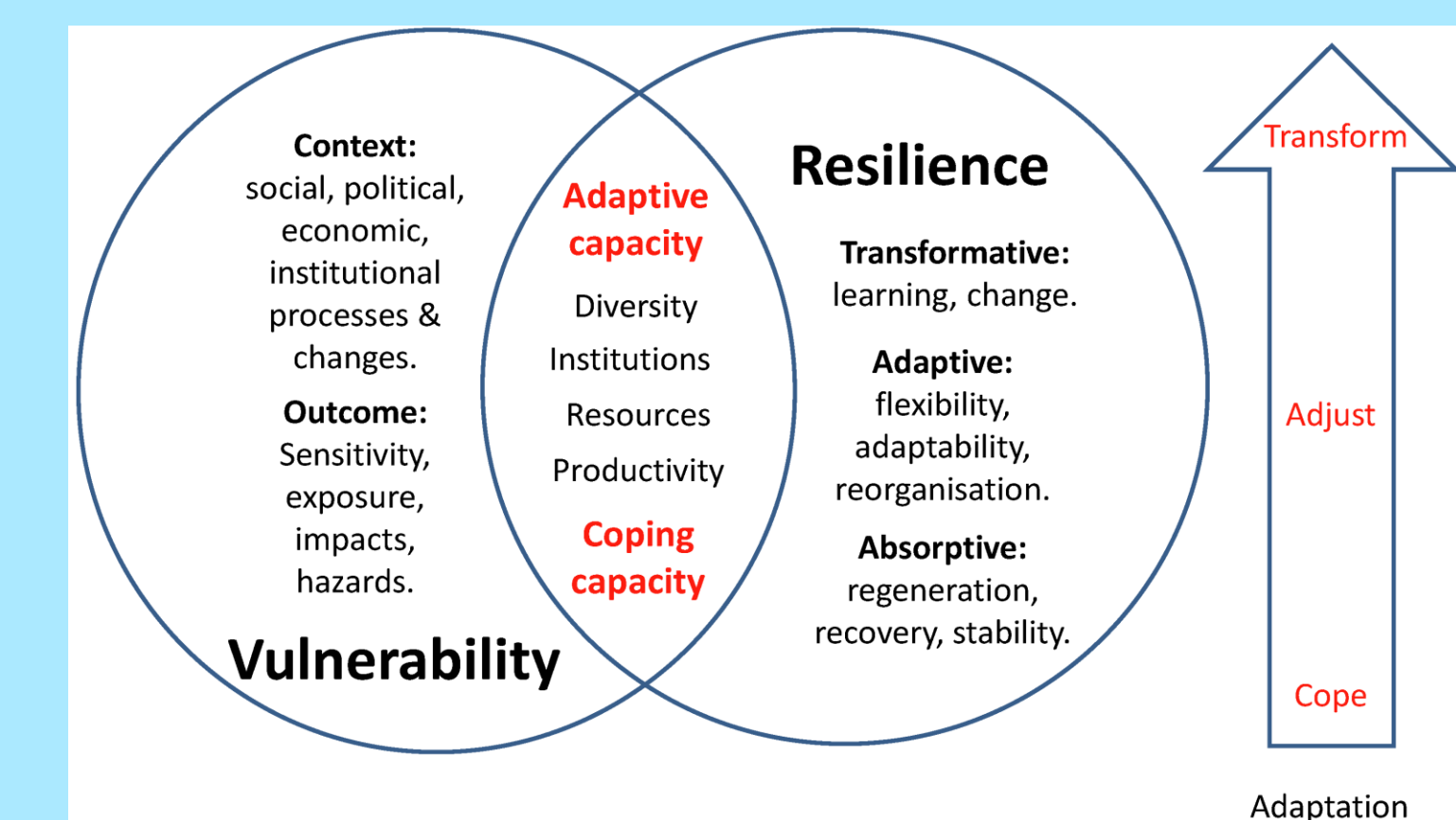
Adaptive governance
Nelson et al. (2008)

The result will be a Drinking Water Resilience Plan with options to enhance adaptive capacity at DPH and in the state's drinking water systems.

National Climate Change Secretariat, Singapore (2012)



Adaptive governance can increase adaptive capacity, or a system's ability to adapt to a changing environment.



Dixon et al. (2014)

This research examines the role of adaptive governance in adaptive capacity by assessing vulnerability and resilience gaps across systems governed by different regulatory structures.