



# Considerations for Water Infrastructure Projects

U.S. EPA | CLIMATE CHANGE OUTREACH AT EPA NEW ENGLAND

## **WATER RESOURCES:**

*Future changes to temperature and precipitation patterns will have a significant effect on the way we manage our water resources. Based on the Northeast Climate Impacts Assessment report from 2006, New England will experience the following over the next century: longer, hotter, drier summers; shorter, warmer winters; fewer rain events with more frequent and intense storms; and, rising sea level.*



## **INTRO:**

Climate change is already occurring and is expected to have a wide range of consequences on water and wastewater treatment in New England. By considering the potential effects of climate change, investments in flood preparedness, drought preparedness, and asset management can be made today to decrease future risks.

## **INVESTING IN PREPAREDNESS:**

With storms being more intense and concentrated in the winter months, runoff will increase and accumulate faster, thereby increasing the risk of flooding for important water infrastructure, especially in the northern part of the region. Drinking water and wastewater utilities can minimize their risk by relocating critical infrastructure above potential flood levels and out of flood plains, which are expected to expand with climate change.

Higher temperatures and fewer rain events in the summer will increase the risk of short-term droughts (lasting 1 to 3 months) to almost once a year. Utilities can prepare for these conditions by evaluating drinking water storage capacity and considering the need for additional storage or back-up supplies. It is also important to ensure water conservation plans are well understood and updated as needed.

Compiling an inventory of utility assets (i.e., any component with an independent physical and functional identity and age, such as pumps, motors, intakes, tanks, or mains) can help you determine the location, importance and condition of each asset. This knowledge will ultimately lead to an improved response in emergency situations, more predictable maintenance and capital replacement budgets, and improved security of your system.

Finally, utilities should educate both the public and rate-payers on what is being done and what to expect from climate change impacts. Public support is critical to the

implementation of preparedness adaptations and improvements.

## **GREEN PROJECTS:**

Encouraging water efficiency can minimize or delay the need for system expansion and can reduce energy use, thereby saving utilities money. It can also help reduce the overall water demand during peak demand and drought periods and works to conserve available water resources for long-term use.

Implementing measures for energy efficiency can help to both save money and reduce greenhouse gas emissions. Utilities can improve energy efficiency by making improvements to infrastructure (e.g., pumping stations, collection systems), getting an energy audit to improve efficiency, or by using renewable energy sources.

Investing in green infrastructure projects, such as low impact development (LID), can help manage wet weather to improve water quality, reduce the amount of stormwater entering combined sewers, and reduce the risk of flooding.

Climate change impacts can stress natural ecosystems and compromise their ability to provide valuable ecosystem services, such as flood protection, clean water, and water storage. Managing ecosystem quality and sensitive areas in a utility's watershed can protect water quality and minimize flood risks. Utilities can consider partnerships with local conservation organizations or land trusts that may be able to assist in planning and financing of source water protection activities.

## **KEY CONTACT:**

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