

Project Synopsis

Water Research Foundation Priority Project 5176

Integrating Climate Change Impacts with Wet Weather Management, Capital Improvement, and Stream Network Enhancement

The primary objective of this research is to create a practical guidance document for integrating climate change impacts with risk-based capital improvement planning for wastewater and stormwater utilities. Guidance will be developed through a synthesis of applied climate science and leading practices in wet weather management. Focus will be placed on current methods for developing future-conditions precipitation data and enhanced modeling techniques to support project planning and design development. The research will include a comprehensive examination of regional climate impacts with tailored approaches to meeting service goals and protecting stream networks and receiving waters.

Approach

After a comprehensive literature review, our team will conduct a series of interviews with participating utilities to document the modeling and planning processes they use to develop capital improvements for their collection systems. We are seeking examples of innovative approaches to incorporating rainfall projections, as well as identifying the gaps and needs associated with more conventional methods. The findings will be synthesized and mapped onto a framework that guides practitioners through risk-based decision points leading to climate-informed design criteria. A utility-facing guidance document will be prepared, and outcomes will be shared through a webinar series. Figure 1 shows how Brown and Caldwell's research team will seek input from and engage with an Expert Panel, a Utility Advisory Committee, other participating utilities throughout the project.

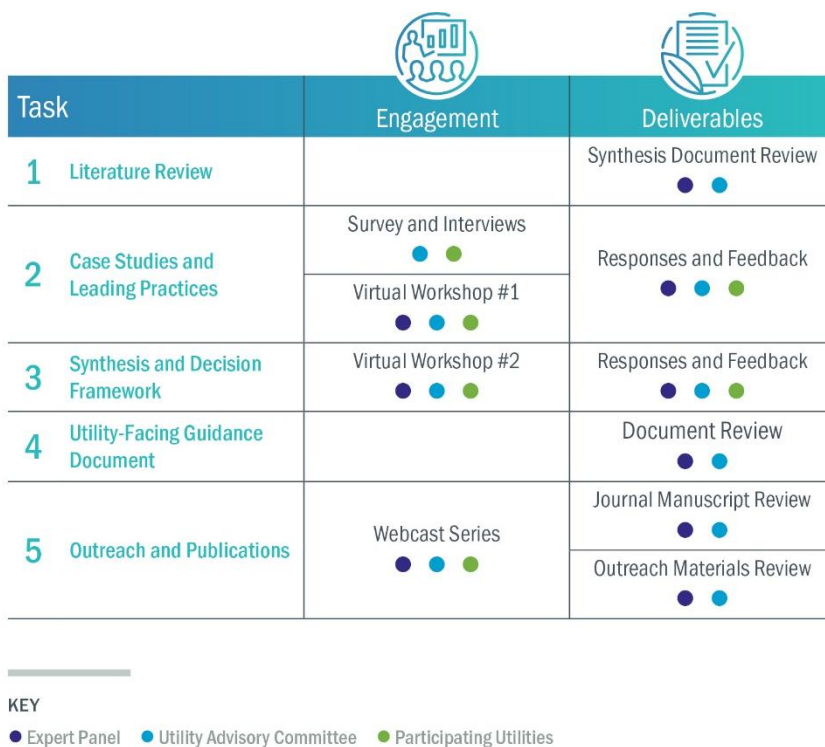


Figure 1 // Engagement and contributions of the participants

Benefits to Participating Utilities

Input and feedback from utilities is key to the success of this research. We offer the following items as potential benefits of sharing information, investing time, and participating in the project.

- Participating utilities will have the opportunity to learn from peer agencies and share lessons learned.
- Contributions will be acknowledged and highlighted to recognize utility contributions to advancing leading practices.
- Engagement activities will give utility staff an opportunity to network and connect with other leading utilities.
- Involvement demonstrates a commitment to addressing climate impacts and building more resilience infrastructure.