

## Overview

City Name	Project Name	Tech Area	Budget for Solution	City Point of Contact
Syracuse	Algae Bloom Monitoring & Treatment	Water Purification & Contaminant Removal	\$150,000	Jen Tifft, jtifft@syrgov.net

## Project Briefs

### Project 1: Algae Bloom Monitoring & Treatment

- **Project Scope.**

The availability of clean water is essential for quality of life in a city. In recent years, toxins known as harmful algae blooms (HABs) have been found in Skaneateles Lake, the primary water source for the City of Syracuse, requiring human resource intensive monitoring and treatment to manage a safe water supply for the City. The purpose of this project is to use unmanned aircraft systems (UAS) technology platform and analytics for real-time water quality testing and mitigation. Goals include to: 1) effectively/efficiently collect and test water samples; 2) visually map HAB formation; 3) identify/measure indicators that generate/ increase algae bloom generation (e.g., climate, humidity, etc.) to predict blooms; and 4) deploy automated mitigations/treatments to reduce presence of HABs.

- **Ideal Technology Solution**

The City of Syracuse is looking to leverage Unmanned Aerial Systems (UAS) hardware and software technology to identify and track Harmful Algae Blooms (HAB) to support early detection and mitigation efforts to protect domestic water quality. The proposed technology solution should support cost effective regular monitoring of open water sources of up to 1 mile in diameter for the formation of HABs as early as possible to allow adequate time for mitigation activities. Systems should be capable of verifying the presence of HABs, using water sampling/testing mechanisms, cameras, and/or other mechanisms, and provide environmental information to predict the growth and movement of these blooms in a variety of weather conditions. The technology must be capable of reliably detecting and distinguishing HABs from other water-borne phenomena. On-board chemical analysis or the ability to collect samples from the bloom and transport for rapid on-shore analysis is strongly preferred as part of the verification process. The information shall be presented in a timely and operationally usable format to the local water department officials to provide ongoing situational awareness, support mitigation planning and provide feedback on mitigation effectiveness. The technology will be tested in an operational environment on Skaneateles Lake during the summer of 2021. Syracuse Water Department personnel will work with the selected technology firm to provide feedback in the development of operationally useful presentation of information.

- **Required Cybersecurity and Privacy Standards**

## Smart Cities Testbed Project Brief

Any technology solution must align with the City of Syracuse's privacy and security policies. One of our primary data privacy principles is that we do not collect more data than we need – so while we may deploy devices that could capture ancillary images or information, our expectation is that devices are configured to only record or save data that is the target of evaluation. The City of Syracuse's privacy policy is accessible [here](#). The City also follows ISO 27001 information security standards.

- **Project Funding: \$150,000**

We are expecting the project to cost roughly \$300,000 to execute within a 1-year timeframe. We are able to commit \$75,000 to the project and expect an in-kind or monetary contribution from interested companies to fill the other portion of the budget. The City of Syracuse is looking for approximately \$75,000 contribution from the relevant technology company either through in-kind services or cash match to pilot its solution in the City of Syracuse. The ESD grant is roughly \$150,000.

- **Other Considerations & Helpful Info**

The Skaneateles Lake watershed map can be found [here](#). More information about Harmful Algae Blooms on Skaneateles Lake and related resources can be found on the Skaneateles Lake Association's [website](#).