

GOVERNING

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Climate Change Is Happening, and Cities Need to Pay Attention Now

There is much to learn from Seattle's approach to adapting and building resiliency.

BY [CHRIS TOMAN](#) | JULY 2, 2014

If there were still any doubt, recent studies have made clear that climate change already has begun to have serious impacts in the United States - and that the problem is only getting worse. The federal government's [National Climate Assessment](#) issued in May laid out in stark detail the region-by-region effects: water shortages, sea-level rise and more frequent wildfires, to name a few.

At the same time, U.S. cities lag behind those of the rest of the world in planning for climate change. A recent survey conducted by the Massachusetts Institute for Technology with ICLEI-Local Governments for Sustainability found that, globally, "the U.S. has the lowest percentage of cities engaged in [climate change] assessments and planning." Of those American cities that have begun the process, most are in the early stages.

One city that has been facing the climate-change challenge head-on is Seattle, where Paul Fleming has been managing Seattle Public Utilities' adaptation and resiliency program for almost a decade. As a result of SPU's long-term commitment, it has formed important partnerships and developed tools to help the utility adapt to a changing climate.

Planning for climate change requires local governments to seriously "engage the science," Fleming says. Cities have to understand how climate change will impact their operations at a community level. A partnership with researchers from the University of Washington's Climate Impact Group has helped SPU identify significant changes already occurring in Seattle, including an increase in prolonged, high-intensity rainstorms that were previously considered "once-a-century" events. Some models predict that the frequency of such storms will increase.

To help SPU bridge the gap between global climate change and local weather events, SPU took the unique step of hiring a meteorologist, James Rufo-Hill. In collaboration with researchers at UW's Department of Atmospheric Sciences, Rufo-Hill has led the new [Seattle RainWatch program](#), an emergency-management and climatology tool that aims to allow SPU to proactively respond to problems before they happen.

Severe storms strain the city's drainage system and cause flooding in streets, sewer backups and combined sewer overflows. RainWatch merges traditional radar imagery with rain-gauge data

gathered from throughout the city. As a result, SPU knows, in real time, exactly how much rain fell in a specific location and where a storm is moving. Combined with city data on customer calls and overflows, SPU expects to be able to send crews to clear drain pipes or notify the public in advance of a heavy rain.

As Seattle's winters become wetter, RainWatch is helping SPU understand exactly how rainfall affects the city neighborhood by neighborhood. "We're learning about, in a much clearer way, how rainfall acts and how rainfall is distributed," Rufo-Hill explains. "We can do something about it."

In addition to adapting to the current changes, SPU is taking significant steps to plan for the future and mitigate financial risk by incorporating climate assessments into its project design. By considering climate change in its planning process, SPU hopes to ensure that investments in infrastructure projects that are expected to last decades will meet the city's future needs. "Our goal is to create a little bit of a foothold where we expand the notion of what needs to be considered when you're thinking about a capital project," Fleming says.

SPU's adaptation and resiliency planning is ongoing. "This isn't a one-off thing where you go and find the answer and bring it back home and build a plan around it," Fleming says. "That answer is going to be evolving over time."

Perhaps the greatest challenge in addressing climate-change impacts is that solutions for one city often aren't relevant to another. To identify risks and develop tools to adapt, cities would do well to follow Seattle's lead by partnering with outside experts and committing long-term resources to the issue.

At SPU, adaptation and resiliency planning is guided by a simple motto: "No regrets." Now that the impacts from climate change are impossible to ignore, it's a motto other cities would be wise to adopt.



Chris Toman | Contributor

crtoman@gmail.com