

Overview

- **Summary:** The FloodWise Communities (FWC) process guides practitioners through a municipal stormwater vulnerability assessment using a web-based tool with customized climate and socioeconomic information and a series of stepwise assessments.
- **Opportunity:** GLISA seeks partners to expand the reach of or improve the FWC process by conducting stormwater vulnerability assessments with partners in new locations and/or with different user groups.
- **To learn more:**
 - FWC [website](#)
 - Video [tutorial](#)
 - City Outcomes & Testimonials [summary](#)

Applications: FWC was designed specifically to help communities assess the vulnerability and adaptive capacity of their stormwater systems to climate-related flooding and other hazards. The web-based tool offers communities a unique profile customized with local climate and socioeconomic information and the opportunity to select from 30 individual stormwater system components to assess (image 1). Additionally, multiple users can access the profile to work on the assessment collaboratively. Once the assessment is complete, results are automatically compiled into a vulnerability matrix (image 2) and corresponding reports that can be printed and shared with community leaders and other interested parties. Past participants have used the assessment to update stormwater design and fee structures, develop hazard mitigation plans, influence capital improvement planning, secure grants, and communicate risk to community leaders, among other applications (see City Outcomes & Testimonials [summary](#)).

Intended Audience: To date, the primary audience for FWC has been municipal practitioners (e.g., stormwater engineers, sustainability staff, public works officials). Moving forward, FWC will continue to be available to municipal users, however the process could be adapted to involve other types of participants (e.g., community groups or residents).

Data Sources: Localized weather and climate data come from existing, publicly available data sources that are detailed in the customized materials created for participating communities and determined to be credible by GLISA. Socioeconomic information is populated using the Neighborhoods at Risk (NaR) [tool](#) developed by Headwaters Economics as part of FWC (see next page).

“ When we got invited to participate, it was sort of a no-brainer... it's really going to increase our capacity. The template is designed to provide individual communities, in this case around the Great Lakes region, essentially an overview in a written template of what the most likely climate impacts will be on their community. ”

- FWC user from Evanston (IL)

“ It got a lot of our different divisions in the room together and discussing these things and seeing how climate change might impact something that Engineering Services is doing, but also sewers and streets. It was just really interesting to have all of us in the same room talking about these things. ”

- FWC user from Toledo (OH)

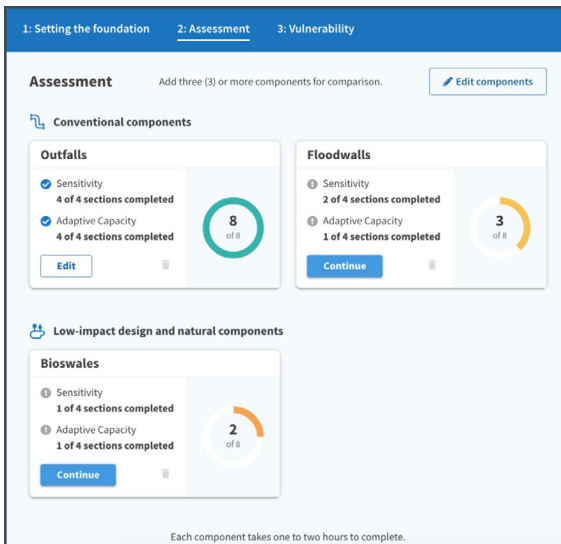


Image 1: Visual of the assessment dashboard including individual assessments for stormwater system components with prompts related to sensitivity and adaptive capacity.

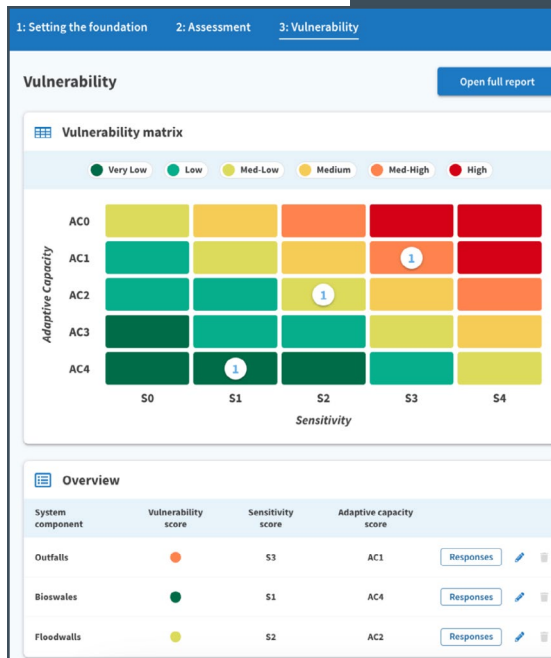


Image 2: Visual of the final vulnerability matrix with separate scores for individual stormwater system components.

Motivation & History: GLISA and partners have been building and refining the FWC tool and approach since 2017, making FWC one of GLISA's most developed tools and programs. It started as a collaborative project in 2017 with funding from the Urban Sustainability Directors Network, led by the Huron River Watershed Council with support from GLISA, Headwaters Economics, and the Great Lakes Climate Adaptation Network. In this [phase I](#) (2017-2018), the project team and practitioners worked together to create a framework that helped five small and mid-sized cities in the Great Lakes region mainstream climate and socioeconomic information into existing planning processes. The resulting Microsoft Excel template and Word document could be applied to city-wide or project-specific assessments and a pilot regional version of NaR was developed.

In [phase II](#) (2018-2019) with support from the NOAA Sectoral Applications Research Program, GLISA led the project team to adapt the template to stormwater management and implement it with 12 more Great Lakes cities to address the observed and projected increase in total and extreme precipitation. The team also started to explore different forms of engagement (i.e., in-person, remote via webinar, or self-guided) to see which methods would be most effective and efficient at reaching more communities while still delivering meaningful outcomes.

In [phase III](#) (2019-2023), GLISA led a new team to secure additional funding from the National Academy of Sciences Gulf Research Program to expand engagement and research in the U.S. Gulf region with the Southern Climate Impacts Planning Program (SCIIPP), Adaptation International, Stanford University, and Headwaters Economics. The project team transferred the vulnerability assessment template into a formal web-based application, launched a national version of NaR, and completed vulnerability assessments with more than 50 communities across Alabama, Florida, Louisiana, Mississippi, and Texas, testing the same forms of engagement as in phase II. In all phases, each community received customized weather/climate and socioeconomic profiles to inform their assessments.

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About GLISA

GLISA was established in 2010 and is a collaboration between the University of Michigan, Michigan State University, The College of Menominee Nation, and the University of Wisconsin. GLISA is the NOAA CAP (formerly RISA) team for the Great Lakes region. GLISA works at the boundary between climate science and decision-makers, striving to enhance Great Lakes communities' capacity to understand, plan for, and respond to climate impacts now and in the future.

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