

Overview

- **Summary:** Scenario planning (SP) is an engagement approach used to describe and incorporate uncertainty into decision-making. GLISA's SP approach utilizes customized scenarios to explore a range of plausible futures and inform adaptation planning.
- **Opportunity:** GLISA seeks partners to use and expand its SP approach in their organization or community. GLISA will work with partners to develop customized scenarios and facilitate a SP workshop where participants customize the scenarios, discuss impacts, and outline recommendations.
- **To learn more:**
 - Video [tutorial](#)
 - GLISA SP [webpage](#)
 - GLISA city [scenarios](#)

Motivation: Planning for future conditions under changing climate trends will always include varying degrees of uncertainty. One way to manage and account for that uncertainty is through SP. GLISA's SP approach provides a strategic framework for practitioners to plan for a range of future climate conditions and disruptions. Planning for multiple plausible futures, including extremes, can increase the robustness of management practices and preparedness for climate change impacts. The SP process also supports adaptation planning by bringing together practitioners of various cross-disciplinary backgrounds with experts who can translate and communicate relevant local climate and other information.

Intended Audience: The intended audience for SP is any organization or community who wants to bring together practitioners and decision makers to examine and plan for multiple plausible future climate, weather, or lake level impacts in a workshop setting. This has been most successful for organizations undergoing a planning process or facing a specific management challenge. Moving forward, GLISA's approach could be adapted to incorporate other community voices within the planning process.

Applications: GLISA has applied SP to a range of climate adaptation problems, including ecosystem management, lake level variability, and extreme weather. The process includes engaging with practitioners for several months to identify key management concerns, goals, and vulnerabilities to develop a suite of tailored climate and/or lake level scenarios. All of GLISA's scenarios are informed by a combination of end-user input from practitioners, past observations and trends, and guidance from future projections in climate models to ensure that they are physically plausible. Once scenarios are outlined, participants attend a SP workshop to further customize the scenarios, discuss impacts, and outline recommendations in small groups. Often, these workshops also serve to bring together practitioners from different sectors, departments, or institutions that may not interact on a regular basis. Working through the scenarios with participants of different backgrounds and areas of expertise allows groups to examine a problem from various perspectives, balance competing management priorities, and understand the level of cross-coordination that is needed in resilience and long-term planning.

“ Workshops geared toward anticipating the impacts from scenarios engaged stakeholders in problem-solving that indirectly informed their municipal mitigation action plans. ”

- PA Sea Grant Extension Leader, on a 2022 SP workshop in Erie (PA, see next page)



Breakout groups in October 2022 Erie (PA) workshop work through scenario planning exercises together (Credit: Kim Channell, GLISA).

History: In 2012, GLISA first partnered with the National Park Service (NPS) to integrate climate information into their SP process and develop a set of climate scenarios to highlight competing park management priorities on Isle Royale, Michigan. Since then, GLISA has applied and adapted its SP approach through partnerships with counties, Tribes, military [installations](#), and Sea Grant programs. Through these experiences, GLISA continues to refine and improve its approach and has created a workbook of guiding exercises that is now used in every workshop.

Recent Examples:

Preparing Erie, Pennsylvania for Extreme Weather: What to do and Where to Start

Pennsylvania Sea Grant and the Community Resilience Action Network of Erie (CRANE) partnered with GLISA to facilitate an October 2022 SP workshop in Erie County (PA) as part of their GLISA small grant [project](#). Participants explored extreme weather scenarios and their impacts on power and water infrastructure and transportation. [Recommendations](#) made in the workshop are intended to help inform future hazard mitigation planning efforts in Erie.

Advancing Community-Level Resilience to Lake-Level Flooding in Wayne County, New York

New York Sea Grant and Syracuse University partnered with GLISA to facilitate a July 2021 SP workshop for Wayne County (NY) as part of a NOAA-funded [project](#). Participants explored lake level scenarios for coastal flooding impacts on infrastructure (e.g., septic systems) along Lake Ontario. [Recommendations](#) made in the workshop have informed community flooding resilience efforts in Wayne County.

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“ Scenario planning was an effective method to get participants from Wayne County communities motivated and organized in their resilience planning efforts. ”

- NY Sea Grant Coastal Community Development Specialist, on a 2021 SP workshop in Wayne County (NY, see above)

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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