September 2025

COMMUNITY-BASED RESEARCH NEEDS

Flooding and Sea Level Rise



Introduction

Delaware is very susceptible to flooding and sea level rise due to its low elevation and extensive coastline. Many of our communities can benefit from science-based information and research to help inform local resilience strategies, but sometimes the research and data is not applicable to our region or scaled for community needs. In 2025, Delaware Sea Grant and the Resilient And Sustainable Communities League (RASCL) led an effort to identify community-based information needs regarding flooding and sea level rise with the hopes of better aligning research **FLASH** to community needs. Through forums, **FLOOD** surveys, and consultations, we identified a set of research topics that, AREA if funded, could expand local capacity to understand impacts and implement strategies that improve community resilience to flooding and sea level rise. Furthermore, RASCL hopes these topics inspire prospective funders of research

to prioritize these topics in their call for proposals.



Local examples matter.

Communities desire studies that focus on local conditions, initiatives, and climate change scenarios.

The following topics are specific to Delaware, not ranked in any specific order, and can be scaled to one community, multiple communities, or statewide as appropriate.

Resilience Strategies

- Identify innovative designs, infrastructure, and/or land use approaches from the U.S. and other countries that enable Delaware communities to live with (more) water.
- Assess state, county, and local housing and land use policies to determine if renters bear a disproportionate burden when it comes to their exposure to flooding and sea level rise.
- Also examine this in the context of ongoing efforts to address affordable housing. Identify potential remedies to mitigate impacts.
 - What are effective adaptation measures that can help Delaware communities prepare for compound flooding events?
 - Using Delaware examples, what is the value of investing in green infrastructure for the mitigation of flooding and sea level rise (characterized by longterm effectiveness and the avoidance of damages)?

Data and Data Delivery

- What methods or media platforms can be most effective for communicating research outcomes to Delaware communities?
- What are innovative methods for overcoming institutional barriers so that more data and research is actionable, downscaled for local needs, actionable, and delivered in formats that are publicly accessible?













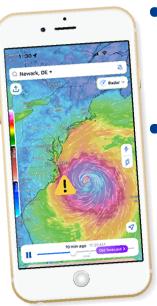
Characterizing Risks and Impacts

- 1) Identify a community's risk tolerance for high tide flooding using socioeconomic factors, or the functioning of critical infrastructure, or both; 2) identify thresholds (such as frequency and spatial extent) when critical points of failure are reached; and 3) document the timeframe associated with this to assist community planning efforts.
- Using modeled storms and sea level rise projections, compare the potential damages to Delaware households under existing building codes and land use patterns to the damages that would be experienced if higher standards have been followed. Identify the higher standards that were used in the analysis.
- Evaluate the economic impact of sea level rise in Delaware based on: 1) physical or nature-based infrastructure; and/or 2) the coastal economy. Examine this in the context of high tide flooding, different modeled storm events, and saltwater intrusion.
- Using intermediate high sea level rise projections for 2050, 1) what is the economic impact on Delaware's agricultural industry? Examine this in the context of saltwater intrusion and overland flooding, and 2) propose an assessment framework for recommending which agricultural lands should be prioritized for open space preservation and/or wetland migration.
- Assess the demographics, present location, and size of Delaware's population that may be displaced by climaterelated flooding and storm events in 15, 25, and 50 years.

How we zone, design, and build our communities can directly influence a population's exposure and vulnerability to sea level rise and flooding. Given the recent development boom in Delaware, it is not surprising that land use and infrastructure planning topics seemed to be at the forefront of everyone's minds.

Policies, Governance and Public Engagement

- Investigate the factors and best practices that enable some Delaware communities to successfully pass resiliency measures such as resiliency funds.
- What are examples of impactful communication strategies that resonate best with different demographic groups in Delaware, and why? Include visual communication tools, education, and/or case studies on the topic of flooding and sea level rise.



- What policies and best practices should the State of Delaware consider if it were to adopt a formal buyout program for flood-prone properties including residential, agricultural, and commercial?
- What are the implications of the changing federal role in disasters for Delaware, and how might the state and its three counties adapt their emergency management framework to address gaps in services and policies?

For more information visit www.derascl.org

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