



# Sea Level Rise Citizen Science

As the foremost global challenge of our time, climate change can feel enormous and complex — but it also has concrete local impacts that we can act on. For example, in many Maine communities, sea levels are rising, storms are intensifying, and coasts are flooding more frequently.

Many of these coastal communities are seeking to understand how weather and sea level contribute to flooding, erosion, and damage to coastal infrastructure. In doing so, they face two major obstacles: lack of access to locally relevant scientific information, and low rates of engagement and understanding among residents and taxpayers.

Fortunately, there are two local projects that **you** can join to contribute to our communities' knowledge of sea level rise. Gulf of Maine Research Institute is working with municipalities through their Coastal Flooding: Storms and Sea Level Rise Citizen Science project, and Friends of Casco Bay volunteers are collecting observational data through their Water Reporter program. Both organizations are working together to enhance our coastal communities' participation in responding to rising seas.

# How to contribute:

Friends of Casco Bay's Water Reporter and Gulf of Maine Research Institute's Coastal Flooding Citizen Science project both engage volunteers in collecting similar data and observations, but they have important differences. You can learn about each to find which project is a better fit for you, or take part in both!

## Friends of Casco Bay – Water Reporter

- **Answers the questions:** How healthy is Casco Bay? How is Casco Bay changing?
- **Primary goal:** For volunteers to collect observational data to help protect the health of Casco Bay. Volunteer Water Reporters use their smartphones to photograph evidence of sea level rise, in addition to documenting signs of pollution, nuisance algal blooms, marine debris, and other phenomena. Since launching in 2018, Water Reporter photographs have helped *Friends* to develop policy positions, instigate investigations into sources of pollution, and increase general knowledge of how Casco Bay is changing over time.
- **Where to take part:** Volunteer Water Reporters can collect observational data from anywhere in Casco Bay by land or by boat.

## Gulf of Maine Research Institute – Coastal Flooding: Storms and Sea Level Rise Citizen Science

- **Answers the questions:** What areas of our shoreline are most vulnerable to current and future flooding and most important to us? What weather and tidal level conditions result in coastal flooding in our communities?
- **Primary goal:** This project has the complementary goals of collecting data for municipal responses to sea level rise and community engagement around the issue. GMRI launched the project in 2021, and as data is collected, it continues to inform what water level and weather conditions lead to localized flooding, and supports the prioritization of resilience actions as public perception and level of concern around flooding continues to rise.
- **Where to take part:** Data can be collected from anywhere in the Gulf of Maine region, but is encouraged to be collected from coastal flood monitoring sites within participating communities.

In short, if you want to help our communities understand the impacts of rising seas in Casco Bay, join us at Gulf of Maine Research Institute and Friends of Casco Bay. If you are at a [Portland or South Portland coastal flood monitoring site](#), use Gulf of Maine Research Institute's [Coastal Flooding Citizen Science Project](#). If elsewhere along Casco Bay, share your image with Friends of Casco Bay by posting to [Water Reporter](#).

Photos: Flooding waterfront in Portland, photo by Gayle Bowness / GMRI; Water Reporter Samantha Bengs, photo by Kevin Morris; Water Reporter post showing flooding along Portland Pier in Portland by Water Reporter Richard Frantz; Intermediate High sea level rise scenario of 6.1 feet in Portland, screenshot from an interactive map / GMRI; flooded stairs near Spring Point in South Portland by Water Reporter Deb Dawson.