

Published on *Marine Ecosystems and Management (MEAM)* (<https://meam.openchannels.org>)

---

## The EBM Toolbox: Tools and resources to address climate change impacts on marine ecosystems

**Editor's note:** The goal of our regular EBM Toolbox feature is to promote awareness of tools for facilitating EBM.

By Sarah Carr

To this point, there has been a lack of information on which tools and resources have been used to address current and potential climate change impacts on marine ecosystems, as well as which have proven most effective. To help address this information gap, the [EBM Tools Network](#) and [OpenChannels.org](#) conducted a survey in October-November 2013. The survey asked practitioners which tools and resources they had used when addressing climate change impacts on marine ecosystems. We took a broad view of "tools and resources" for the survey, including written guides, models, protocols, replicable methodologies, computer software, apps, and databases. In all, 102 practitioners participated.

Below are the tools cited most often by respondents, and how the tools are being used:

### Coastal Resilience

6 citations; [www.coastalresilience.org](http://www.coastalresilience.org)

Uses cited in the survey:

- Visualizing impact of sea level rise on coastal communities
- Estimating vulnerability and adaptive capacity to focus adaptation planning
- Demonstrating scenarios for coastal communities in sea level rise, resilience, flood insurance, and adaptation-planning discussions

### Geographic Information Systems (GIS)

5 citations of Esri ArcGIS, [www.esri.com](http://www.esri.com); 2 citations of general GIS platforms

- Mapping locations of ecosystems, critical habitats, key resource areas, population influences, and threats
- Planning surveys

### Reef Check

3 citations; [www.reefcheck.org](http://www.reefcheck.org)

- Monitoring comparative reef health across the country and comparing project success
- Comparing patterns in coral cover using data from multiple sources

### Sea Level Affecting Marshes Model (SLAMM)

3 citations; [www.warrenpinnacle.com/prof/SLAMM](http://www.warrenpinnacle.com/prof/SLAMM)

- Identifying likely changes of estuarine marshes to a variety of sea level rise scenarios
- Sharing mapping scenarios with municipalities to help develop land-use planning policy and land-conservation projects that mitigate marsh losses from sea level rise

### Atlantic Gulf Rapid Reef Assessment (AGRRA)

2 citations; [www.agrra.org](http://www.agrra.org)

- Rapidly assessing changes in reef condition during and after ecological perturbations

### Marine Geospatial Ecology Tools (MGET)

2 citations; <http://mgel.env.duke.edu/mget>

- Acquiring satellite data (sea surface temperature, productivity, etc.)

## Sea Level Rise and Coastal Flooding Impacts Viewer

2 citations; <http://coast.noaa.gov/slr/>

- First-order mapping of sea level rise inundation for community planning.
- Demonstrating scenarios for coastal communities in sea level rise, resilience, flood insurance, adaptation planning discussions.

Many thanks to all of our survey respondents for their input!

Note: Sarah Carr is coordinator for the EBM Tools Network. Learn more about EBM tools and the EBM Tools Network at [www.ebmtools.org](http://www.ebmtools.org)

---

**Source URL:** <https://meam.openchannels.org/news/meam/ebm-toolbox-tools-and-resources-address-climate-change-impacts-marine-ecosystems>