COASTAL FARMING CHALLENGES
WORKSHOP FINDINGS

A workshop funded by the National Science Foundation’s Coastlines and People Program.

INTRODUCTION
Maryland Sea Grant and partners convened a series of workshops with coastal farmers and woodlot managers located in the Chesapeake and coastal bays region in Maryland and Virginia. The goal of the workshops was to learn about coastal farming challenges that farmers and woodlot managers may be experiencing due to sea level rise and to identify potential research and policy gaps affecting their ability to adapt to these changes.

WORKSHOP DESIGN
Twenty-five coastal farmers and woodlot managers participated in this project. Participants were recruited through existing agriculture networks (e.g. Land Grant Extension, US Department of Agriculture Natural Resources Conservation Service) and a local newspaper. Participants manage and/or own agricultural land ranging from 5 - 6,700 acres and produce a variety of crops (e.g. timber, corn, vegetables). Data were collected through three virtual 90-minute workshops, digital pre- and post-surveys, and phone interviews. The workshops included informative talks by experts about sea level rise and adaptation strategies for farmers, as well as discussion sessions for farmers and woodlot managers to voice their concerns and questions regarding adaptation. Participants shared their experiences and perspectives on changes to their land and potential management options to address landscape changes (Figure 1).

FINDINGS
IMPACTS AND MANAGEMENT
Participants’ motivations to continue farming include sustaining their livelihood, continuing their family’s legacy on the land, preserving cultural identity in the region, and/or furthering their own dreams and goals for the property.

Discussions during virtual workshops highlighted participants’ current and planned land management strategies in response to sea level rise. These strategies vary depending on: the percentage of land affected by flooding and saltiness; the cost and effectiveness of available management techniques; perceived policy hurdles; and knowledge of the problem and available mitigation options. Some participants indicated they would like to continue managing land as they have been in the short term but expect to have to change their land management in the long term.

Soils are wet longer
More standing water on the land
Increase in wildlife destruction
Dead or dying trees
More frequent ditch maintenance
Increased wetland plants
Flooding by seawater
Erosion or loss of soil
More salt in the soils
Land no longer suitable for planting
Reduction in crop productivity
Increased costs to manage land
Compromised infrastructure
No changes and do not feel vulnerable to these threats (0%)

Figure 1. Reported observed impacts attributed to sea level rise and flooding by participants in the pre-survey.
Table 1. Summarized possible courses of action and participants’ assessment of relevant challenges according to three broad categories of how participants might respond to landscape changes due to sea level rise and flooding.

<table>
<thead>
<tr>
<th>LAND MANAGEMENT OPTIONS</th>
<th>PREDOMINANT STRATEGIES</th>
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<tbody>
<tr>
<td><strong>RESISTING CHANGES TO THE LAND</strong></td>
<td><strong>ACCEPTING CHANGE OF THE LAND</strong></td>
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<td>Tide gates, dikes and berms, drainage ponds, catch basins, and spillways to improve drainage; salty soil remediation</td>
<td>Alternative crops (e.g. switchgrass, quinoa) and/or salt-tolerant crop varieties, ways to work around wet/salty areas, letting affected land go fallow</td>
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<td><strong>CHALLENGES</strong></td>
<td><strong>RESOURCES</strong></td>
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<td>Available methods sometimes fail, may be cost-prohibitive, or might not be worth investment on less productive lands</td>
<td>Areas that are too wet may not produce good yields, are inefficient to farm, or may put machinery at risk. Alternative crops and/or salt-tolerant versions of standard crops may also present challenges such as low yield, limited markets, or need for new farm machinery</td>
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Throughout this small pilot project, participants expressed interest in learning more about novel opportunities (e.g. carbon market, technological developments in flood control) and any policies, funding, or available science which could help maintain operations and/or transition to different land uses. Further, respondents thought technical service providers and boundary organizations could facilitate actions on policy and research gaps by “conveying coastal challenges of agriculture to policy makers” and “facilitating collaborations for research on coastal agricultural issues.”

CALL FOR COLLABORATION

Maryland Sea Grant is interested in collaborating further with farmers, woodlot managers, researchers, extension & outreach specialists, and policymakers to continue this initiative and help Maryland communities become more resilient to weather and climate hazards. Please contact Taryn Sudol at sudol@mdsg.umd.edu for more information or visit the website https://bit.ly/MDSG-coastal-agr for workshop presentations and forthcoming project reports.

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