



## Lesson 2: Issue Selection Facilitator Guide

**Grade Level:** Grades 5-8

**Timing:** *Our Coast, Our Future* Lesson 2: Issue Selection is divided into three classes each intended to be facilitated in 45 minutes or combined into longer blocks.

**Tips:** In this guide each class description contains:

- **How to prepare** to facilitate lessons including tips on what materials to gather and what student supports should be prepared.
- **Essential questions** that focus the purpose of the class investigation.
- **Vocabulary and terms** divided into “tier two” words (academic words that are frequently used in many disciplines and may have different meanings depending on context) and “tier three” words (discipline specific academic words that are infrequently used outside of a specific context, in this case within the science and policy of climate change). Definitions for tier three words are provided in the *Student Glossary of Terms*.
- **Class procedure** that outlines student activities and provides guiding questions and discussion facilitations tips.
- **Assessment** tools to gauge student engagement, understanding, and skill acquisition. These are generally reflection questions to be answered by students at the end of each class.

### Lesson 2 – Issue Selection

In this lesson, students will use their broader understanding of coastal issues and choose a specific, hypothetical challenge that they will address. They will use decision making tools and templates to review the three presented challenges from class one and determine which is most locally relevant to them and what they would like to work on as a class. They will be presented with a broad overview of each issue with initial information on community impacts across social, economic and environmental impacts.

- Identify factors or characteristics critical to understanding climate impacts for a specific community.
- Summarize a community’s current and future vulnerability to climate impacts, including ecological, infrastructure, and social and economic impacts.
- Identify future research that will be needed to make a climate action plan.

**Priority Activities** follow the ‘through line’ and will meet the priorities of the unit.


**Secondary Activities** were designed to be included in the unit but can be modified or eliminated if necessary

<b>Priority Activities:</b>	In class 2.1, students will review the three challenges and then use a criteria-based decision making tool to decide on 1 option to pursue. In class 2.2 Students will explore their chosen challenge in more detail. In class 2.3 Students will use tools to identify what more they want or need to know.
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<b>Secondary Activities:</b>	<p>In class 2.1, you can offer students only one scenario but they should still evaluate that scenario according to factors they explored in class 1.3.</p> <p>In class 2.1 you may consider another decision-making process.</p> <p>Class 2.3 can be modified for time.</p>
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## Class 1

**Teacher Materials & Preparations:** Before this lesson prepare activity sheets for each Student Guide, students will be using *Climate Challenge Selection* activity sheet to help them choose which of the three climate scenarios they will choose to investigate in the *Our Coast, Our Future* project. Facilitators should review activity descriptions before class and familiarize themselves with guiding questions.

<p><b>Learning Objectives:</b> To understand what criteria-based decision-making is, and how it can be an effective way to make decisions.</p> <p><b>Scaffold:</b> This activity is considered a scaffold for the <a href="#">Issue Selection Grid</a> and <a href="#">Using Criteria-Based Decision-Making</a> activities.</p> <p>Criteria-Based Decision-Making may be a new term for your students. In fact, this is something they use in their daily life. They just may not realize it. When introducing Criteria-Based Decision-Making, use an everyday example to help familiarize your students with the concept before using it in the Earth Future project. Decide on an exercise that you can use with your students to connect them to Criteria-Based Decision-Making.</p> <p>Deciding what to eat for lunch is a perfect example of using Criteria-Based Decision-Making in daily life!</p> <p><b>Definition:</b> Criteria are guidelines we use to make judgments or decisions.</p> <p>When deciding what to eat, you think about what you need or like, what is available, and what is involved in preparing the food among other things. You are making multiple decisions to refine your options.</p> <p>Ask your students what criteria they think about when deciding what to eat. Here are a few ideas:</p> <ul style="list-style-type: none"><li>• What's already in the refrigerator?</li><li>• How easy is the food option to cook?</li><li>• How healthy the food option is.</li><li>• How long it will take to cook.</li></ul> <p>Using these criteria, you narrow down your options. Using a table like the one below creates a visual representation of that narrowing-down process. The more factors considered for each option, the more closely matched it is to your criteria!</p> <table><tr><th></th><th>Scenario 1: Sea-level Rise, Increased or Warmer Weather</th><th>Wild Weather</th><th>Drought</th><th>Heat</th><th>Sea-level Rise, Increased or Warmer Weather or Wild Weather</th></tr><tr><td>Availability (already in fridge)</td><td>X</td><td>X</td><td></td><td>X</td><td>X</td></tr></table>		Scenario 1: Sea-level Rise, Increased or Warmer Weather	Wild Weather	Drought	Heat	Sea-level Rise, Increased or Warmer Weather or Wild Weather	Availability (already in fridge)	X	X		X	X	<p><b>Climate Challenge Selection Grid</b></p> <p>Use this grid to determine on which <b>Challenge</b> your class would like to focus. The column on the far-left hand side lists the <b>Criteria</b> you have to consider to make your selection. <b>Rate each Challenge against each criterion</b> using a 1-3 scale. Total up your scores at the bottom. Note: 1 means it least meets the criteria, 3 means it most meets the criteria.</p> <table><tr><th>Criteria</th><th>Scenario 1</th><th>Scenario 2</th><th>Scenario 3</th></tr><tr><td>Criterion 1: I want to learn more about the results of this challenge.</td><td></td><td></td><td></td></tr><tr><td>Criterion 2: This is something that could happen in my already happening in my community.</td><td></td><td></td><td></td></tr><tr><td>Criterion 3: This challenge affects the ways that our community people or places I care about in my community.</td><td></td><td></td><td></td></tr></table>	Criteria	Scenario 1	Scenario 2	Scenario 3	Criterion 1: I want to learn more about the results of this challenge.				Criterion 2: This is something that could happen in my already happening in my community.				Criterion 3: This challenge affects the ways that our community people or places I care about in my community.				
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How To: Criteria-Based Decision-Making	Climate Challenge Selection activity sheet	Challenge Summary Slides																												

## Essential Vocabulary:

- Tier 2: scenario, vulnerability, resilience, resident, interconnected
- Tier 3: criteria/criterion, equity, green space, heat wave

**Essential Question:** How does a community identify what climate change issue to investigate?

## Class Procedure:

- **Student Welcome (5 minutes):** Consider asking students, “What were the most surprising vulnerabilities from the last classes investigation”, “Which vulnerabilities do you think are the most important to address with solutions”?
  - Record some student responses on white board, Padlet, etc.
  - The themes of these questions will be discussed in more depth later in the class
- **Activity (20 minutes):** Let students know that they will be presented with overviews of three coastal climate change impact challenges that they will review and compare to the *How Do We Measure Up? Exploring Climate Resilience in your Community* inventory (social, economic, environmental impacts). Together the teacher facilitator and students will utilize decision making activities that involve an issue selection grid to evaluate the community inventory against criteria that includes local relevance and student interest.
  - Ask students, “How do you make a decision if you have multiple choices”?
  - Listen to student suggestions.
  - Let students know that they will practice “criteria-based decision-making” with a short activity that will help them when choosing one of the three climate scenarios mentioned in the *Our Coast, Our Future*

*Introduction Video.* You should use the *Challenge Summary* Slides to provide a broad overview of the three challenges.

- Teacher facilitator should refer to the *How To: Criteria-Based Decision-Making* sheet to lead student through the introductory exercise that will prepare students for choosing the project scenario based on their work in Lesson One.
- Facilitation directions for this activity are found on the activity sheet.
- Teacher facilitator may draw up the decision grid up on a white-board or Padlet.
- Let students know that now they have done a practice round on criteria-based decision-making they will be applying the same process to choosing a coastal climate scenario.
- Introduce the *Climate Challenge Selection* activity and follow the directions on the sheet to help students choose the most appropriate scenario based on their communities' characteristics and student interests.
- Students should refer back to the information gathered in the *How Do We Measure Up? Exploring Climate Resilience in your Community* activity worksheet from Lesson One.
- Each student should have a copy of the *Climate Challenge Selection* activity sheet to fill out during the class discussion.
- **Discussion (20 minutes):** Teacher facilitator and students will use the *How Do We Measure Up? Exploring Climate Resilience in your Community* activity choose which criteria to place in the decision grid on the *Climate Challenge Selection* activity sheet.
  - This activity is done in the same format as the practice session.
  - Teacher facilitator can choose to do this activity as a whole class or have students work in small groups for parts of this activity, e.g., the facilitator and class can choose the criteria together and then students can work in groups to rank criteria.
  - Ask students, “Which criteria out those investigated in the Infrastructure, Societal, and Environmental *How Do We Measure Up? Exploring Climate Resilience in your Community* should we put in our decision grid.
  - Take time to pick top criteria of concern.
  - Ask students to defend why certain criteria would be good to include in the decision grid.
  - The teacher facilitator may also choose some or all of the criteria ahead of time if they’d like to guide the class toward a specific scenario.
  - Once the criteria are chosen, use the brief scenario descriptions (found on the back of the *Climate Challenge Selection* activity sheet) to rank the criteria.
  - Once all the chosen criteria have been ranked, add up the total score. If students were ranking criteria individually or in small groups, the teacher facilitator can use the rank numbers from all students and groups to see which scenario received the highest score.
  - Announce to the students which scenario they have chosen based on their analysis.
- **Wrap-up (5 minutes):** Let students know that in the next class they will begin investigation of their chosen scenario.
  - Remind students to complete their class assessment, either at the end of class or as homework.




### Assessment of knowledge, understanding and skills:

- **Question prompt:** “Which climate criteria is of the most interesting to you or do you care the most about personally? Why”?

## Class 2

**Teacher Materials & Preparations:** Before this lesson prepare the Student Guide materials, students will be using *Stories! Activity Sheet* to organize their ideas about the challenges and impacts discussed in the story map that

describes the challenge the class chose in class one, **either** *Protecting Property and Infrastructure (Challenge 1)*, *Protecting Recreation and Public Space (Challenge 2)*, or *Preparing and Protecting People (Challenge 3)*. Students will need access to a computer and internet to view StoryMap.

		
<i>StoryMap- Protecting Property and Infrastructure (OCOFC Challenge 1)</i>	<i>StoryMap- Protecting Recreation and Public Space (OCOFC Challenge 2)</i>	<i>StoryMap- Preparing and Protecting People (OCOFC Challenge 3)</i>
	<p>Name: _____ Class: _____ Date: _____</p> <p>Story!</p> <p>As you go through the Story Map for your chosen scenario, think about these questions. Your responses can be in words or pictures.</p> <p>What part(s) of the story in the StoryMap strike you as particularly interesting or important? Why?</p> <p>Now that you've done a community inventory, which aspects of the StoryMap connect best to what is happening in your city or town? Explain briefly.</p>	
	<i>Stories! Activity Sheet</i>	

## Essential Vocabulary

- Tier 2: sources, frequency, severity, tourism, structure, strategy, inhibit, stabilize, impact, disruption, pedestrian, evacuation, extreme
- Tier 3: StoryMap, essential services, policy, practice, socioeconomic, case study, wetland, managed retreat, recreation, sea level rise, erosion, infrastructure, seawall, Nor'easter, utilities, hazardous sites

**Essential Question:** What specific climate challenges are being faced by the community?

## Class Procedure:

- **Student Welcome (5 minutes):** Consider asking students, “What new information or sources would help in investigating the climate challenges being faced by our hypothetical community”?
  - Record some student responses on white board, Padlet, etc.
  - The themes of these questions will be discussed in more depth later in the class.
- **Activity (20 minutes):** Let students know that they will explore their chosen climate challenge using a digital StoryMap which is a piece of digital media that can include maps, storytelling text, lists, images, videos, and other embedded items.
  - Ask students to individually review their challenge’s StoryMap and to use the *Stories! Activity Sheet* to organize their reaction and reflection.
  - Ask students to work in pairs or in groups to review their observations and questions that arose from investigating the StoryMap.
  - The teacher facilitator should move around the classroom to help with any troubleshooting or student questions.
- **Discussion (20 minutes):** Teacher facilitator will gather the classroom and review responses to the questions on the *Stories! Activity Sheet*.
  - Record some highlights of student responses on a white board, Padlet, etc.

- Ask students, “What part(s) of the story in the StoryMap strike you as particularly interesting or important? Why?”, “Now that you’ve done a community inventory, which aspects of the StoryMap connect best to what is happening in your city or town? Explain briefly.”, “What new questions do you have about your challenge after viewing the StoryMap”?
- **Wrap-up (5 minutes):** Let students know that in coming classes they will investigate some more issues that can complicate climate change challenges and will look closely at their own community to discover their climate strengths and weaknesses.
  - Remind students to complete their class assessment, either at the end of class or as homework.

### Assessment of knowledge, understanding and skills:

- **Question prompt:** “Describe a part of the StoryMap that was particularly interesting or important? Why do you think so”?

## Class 3

**Teacher Materials & Preparations:** Before this lesson prepare the Student Guide each student, students will be using *Digging Deeper Activity Sheet*.

<p><b>Digging Deeper- An Exercise in Questioning</b></p> <p><b>Learning Objectives:</b> To better present the issue that students are interested in and the feasibility of moving forward with issues in research and beyond.</p> <p><b>Added Information:</b> This tool is to be used after a root cause analysis has been conducted in Step 1 before students have voted in Step 2 to make informed decisions.</p> <p><b>Benefits:</b> Use this as a whole-class activity or try a “tell and turn”, where students start off individually and then work with a neighbor who is also working on that issue. Gradually bringing it to the entire class will help smooth the whole-class discussion.</p> <p><b>Materials:</b></p> <ul style="list-style-type: none"> <li>Handout on next page (format group or individual)</li> <li>Writing utensil</li> <li>Marker or pen of another color</li> </ul> <p><b>Procedure:</b></p> <p>1) Provide the activity sheet (on the following page) to small groups or individual students.</p> <p>2) After doing a root cause analysis in Step 1, your class should have a new list of issues. Take that list and give each group 1 or 2 issues from that list to work on. Instruct them to write those issues in the yellow column, leaving space between them. As a note, try to make sure that there is more than one group working on each issue.</p> <p><small>© 2019 Mass Audubon. All rights reserved. This document is for educational use only. It may not be reproduced without the written permission of Mass Audubon.</small></p>	<p><b>Digging Deeper- An Exercise in Questioning</b></p> <p><b>Facilitator Version</b></p> <p><b>Learning Objectives:</b> To better present the issue that students are interested in and the feasibility of moving forward with issues in research and beyond.</p> <p><b>Added Information:</b> This tool is to be used after the How Do We Measure Up? Exploring Climate Resilience in your Community Activity analysis has been conducted and an initial investigation of the StoryMap using the Digging Deeper Activity Sheet.</p> <p><b>Benefits:</b> Use this as a whole-class activity or try a “tell and turn”, where students start off individually and then work with a neighbor who is also working on that issue. Gradually bringing it to the entire class will help smooth the whole-class discussion.</p> <p><b>Materials:</b></p> <ul style="list-style-type: none"> <li>Handout on next page (format group or individual)</li> <li>Writing utensil</li> <li>Marker or pen of another color</li> </ul> <p><b>Procedure:</b></p> <p>1) Provide the Digging Deeper Activity Sheet, student version, to each of students, small groups or individual students with their chosen community StoryMap.</p>	
<b>Digging Deeper Activity Sheet</b>	<b>Digging Deeper Facilitator Guide</b>	

### Essential Vocabulary:

- Tier 2: sources, frequency, severity, tourism, structure, strategy, inhibit, stabilize, impact, disruption, pedestrian, evacuation
- Tier 3: scenario, StoryMap, extreme storms, essential services, policy, practice, socioeconomic, case study, wetland, managed retreat, recreation, sea level rise, erosion, infrastructure, seawall, Nor’easter, utilities, hazardous sites

**Essential Question:** What additional information and research will community members need to gather to make a climate action plan?

### Class Procedure:

- **Student Welcome (5 minutes):** Consider asking students, “What are some thoughts or questions you have about the climate challenge that was introduced last class? Are there any topics associated with the challenge that you feel you know a lot about”?
  - Record some student responses on white board, Padlet, etc.
- **Activity (30 minutes):** Let students know that they will use the information gathered from reviewing the *How Do We Measure Up? Exploring Climate Resilience in your Community Activity*, the *Digging Deeper* activity sheet, and their chosen challenge’s StoryMap to identify the questions they’d like to address and further research.

- Let students know that the *Digging Deeper* activity sheet will be completed in this class along with other worksheets and activity sheets will continue capture their work as it happens and contribute to their final project.
- Teacher facilitator should follow the *Digging Deeper Activity Sheet* Facilitator guide (steps 1-4) attached to this lesson to lead students through the activity.
- Teacher facilitator should move around the student working space to help direct students, answer questions and troubleshoot any technical issues.
- **Discussion (10 minutes):** Teacher facilitator will continue to facilitate the discussion portion of the Digging Deeper Activity (step 5 on the worksheet). Bring the group together and go through all of the issues on their list.
  - Ask students to share out their ideas, making sure to ask them if they think this challenge is the best one to continue to focus to during the project and what thoughts, concerns or questions students have at this stage.
- **Wrap-up (5 minutes):** Let students know that in coming classes they will begin to prepare the questions and resources they will need to do have to research the climate strategies that best support their chosen challenge.
  - Remind students to complete their class assessment, either at the end of class or as homework.

#### **Assessment of knowledge, understanding and skills:**

- **Question prompt:** “What community climate issue/criteria did you think was the most important or interesting? Why?”