DETAILED PROJECT PLAN

The project. In this project, students will identify their community coastal area and research the impact of sea level rise in the short-term future. They will then create a story map to preserve the stories of that coastal area.

TEACHER TIP ‖ Questions to ask when planning to roll-out this project*:

	Prior Knowledge: *What prior knowledge (if any) do my students have about climate change, sea level rise, and extreme weather?*
Authentic Audience: *Who is the authentic audience for this project? Who can benefit from learning the stories of your coast, beyond the classroom?*	
	Context in Place: *What is our community coastal area? If we don't live on the coast, what coastal area is most connected to our ahupua'a? What changes has the coast seen in the last decade? Hundred years? What changes are projected due to sea level rise?*
Project Management: *Will students work alone or in teams? If students work in teams, how will they be assigned? How will they be assessed individually vs. in a team?*	

*Project-based learning vs. traditional lesson planning: *In the midst of project-based learning, students are actively doing the work, learning, creating, and inquiring - eventually heading towards their end goal or product. Often misunderstood is that the organized chaos of what you might see in a PBL environment is carefully and intentionally designed by the teacher well before the project begins. The questions above should allow you to set the stage for student learning to unfold in the following project. Anticipating student questions and areas of need will help you to feel planned and ready in advance of a project.*

The Story of Our Coasts

Essential Question:	What impact will sea level rise and/or erosion have on your community's coastal area?

Skills and content needed to answer the Driving Question: *Refine these skills and content standards to the scope and need of your project. This project is designed to be interdisciplinary – but if you don't teach a subject, it doesn't mean that that skill or standard can't still play a role in the experience! – These selected skills and content will be supported throughout the project with activities, formative assessments and additional resources.*

Skills	Content/Standards
- Reflection - Communication - Collaboration - Research - Storytelling - Interviewing - Data Collection - Map Making *Add other skills to practice in this project*	**NGSS MS-ESS3-5. Asking Questions and Defining Problems** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century. **NGSS ESS2.C The Roles of Water in Earth's Surface Processes** The complex patterns of the changes and the movement of water in the atmosphere, determined by winds, landforms, and ocean temperatures and currents, are major determinants of local weather patterns. **CCSS.ELA-LITERACY.W.8.7** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. **CCSS.ELA-LITERACY.W.8.2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. **CCSS.ELA-LITERACY.W.8.3** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. **CCSS.ELA-LITERACY.W.8.5** With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 8 here.) **CCSS.ELA-LITERACY.W.8.6** Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

	CCSS.ELA–LITERACY.W.8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. **Add other standards to practice and assess in this project*

Activites, Products and Assessments: *Below you will find the proposed activities, student products and assessments for this project. Refine them to match the scope and need of your project, making sure that they align with the skills and content you chose to drive from in the previous section.*

Final project & summative assessments:

Identify a community coastal area and research the impact of sea level rise in the short-term future. Create a **story map** to preserve the stories of that coastal area.

Teacher Tip: Present the project calendar early on to show students where they are headed. *Students should know what is expected at the end from the beginning of the project.*

Storytelling
How do we know where we are going if we don't know where we've come from?

Launch the project with a mo'olelo jigsaw.
- **Mo'olelo,** Hawaiian storytelling, represents the stories, history, genealogy and succession of the Hawaiian people and place.
  - **Option** to have community members visit to share their stories, or watch recorded stories of local community members to launch the project.
- Break students into groups to explore different mo'olelo (stories).
  - [Mo'olelo by place](#) by KSBE Aloha 'Aina Project
  - [Hawaiian folk tales](#) by Gutenberg
- During the exploration of stories, students can be uncovering and developing questions that they have by accessing prior knowledge and sparking new wonderings.

Watch the [video on mo'olelo](#). Discuss the definition and make connections between the stories students read, what they already know, and what they want to learn. Focus on the question posed in the video: *How do we know where we are going if we don't know where we've come from?*

[Google Earth](#) **exploration.** This is a chance for students to explore and practice with the "Project Creation" tool on Google Earth, which will be the tool used for their final products.
- Have students explore google earth, using the following prompts:
  - Have students try to "create a project' on Google Earth
  - With limited restrictions to the outcome, use the following prompts for the prototyping:
    - Predict the **place** that is referred to in the mo'olelo story and **pin** the place onto a map.
    - Find your current home and pin it on the map
    - Identify 3 places you frequent often and pin it on the map

What to collect from students:
–Student generated questions
–Prototyped Google Earth projects

Type of assessment:
–Formative

Skills and content:
–Reflection

–Communication

–Storytelling

■ *Optional:* write a short story at each pin to help others understand the significance of that place to you
- Have students **share** their maps in small groups.
- *An alternative or add-on activity to this Learning Moment is to take a "walking field trip" to the area surrounding your school. When students return from their field trip, they can identify places of significance and pin them on a paper or virtual map.*

Introduce the project, project calendar and rubric.

- **Introduce the Essential Question:** *What impact will sea level rise and/or erosion have on your community's coastal area?*
- Introduce the **project calendar,** and the **rubric** for the final product that students will be working towards.
- Generate questions that students might have about the project and write them on the board or on chart paper. **Revisit these questions throughout the project.**

Sea Level Rise
How will my coastal community be impacted by sea level rise, erosion, and other coastal environmental factors?

In this learning moment, students will learn about the effects of sea level rise on the Hawaiian islands. Have students complete the Gathering Information document. This is a great time to introduce new vocabulary, and use the results of a content quiz to differentiate for student needs.

Set up **learning stations** for students to explore different sources:
- Rising Tides: Understanding Sea Level Rise – NASA
- Images of Change – NASA
- Quiz: Sea Level Rise – NASA
- NOAA's Sea Level Rise Viewer – National Oceanic and Atmospheric Administration
- Hawaii Sea Level Rise Viewer – Pacific Islands Ocean Observing System
- Hawaii's Sea Level Rise – Sealevelrise.org
- O'ahu Expert Says There's No Way Around Sea Level Rise – Hawaii Public Radio
- Six Feet Above: Where to Draw the Line – Sea Level Rise

  - *Other resources that can be differentiated or used to deepen understanding:*
    - Sea Level Rise Vulnerability and Adaptation in Hawaii – UH Sea Grant
    - Hawaii's Changing Climate – SOEST (University of Hawaii School of Ocean and Earth Science and Technology)

What to collect from students:
–Students complete the gathering information document

Type of assessment:
–Formative

Skills and content:
–The Roles of Water in Earth's Surface Processes (NGSS ESS2.C)

- ■ [Waikiki Beach Sea Level Rise](#) – Business Insider
- ■ [Senate Bill 2381](#) – Hawaii State Legislature

Research

How will sea level rise impact the coast near my community?

In this section, students conduct a short research project to gather more information on the story of their coastal community.

Begin as a whole class by exploring Blue Planet's **[Blue Line Cards](#)** to learn about the coastal flooding that is projected to occur across the islands. You can also view the [Blue Line Tour from SOEST.](#)

Getting the story:
Have students conduct an interview with someone in the community *(could be a family member, auntie or uncle, staff member at the school, kupuna)* to learn more about the stories surrounding their coast, a local beach, or an area of interest, **and how it has changed over time.**

Independent research: Reflecting on the information they found in the learning stations on Sea Level Rise, + their interview, students come up with 3 research questions to explore further through independent research. Remind students that their research is helping them to gather information that will eventually go in their Story Map. Use this **[template](#)** as a guide.

What to collect from students:
–Students conduct [Independent Research](#) to deepen their understanding of how SLR impacts their community

Type of assessment:
–Summative with feedback

Skills and content:
–Conduct short research projects (CCSS.ELA-LITERACY.W.8.7)

–Asking Questions and Defining Problems (NGSS MS-ESS3-5.)

Audience + Scope. As you move into the next stage of the project, start determining who the final audience of the project will/can be, and what the scope of the project will be.

Consider the following *(use the planning document):*
  A. **Audience:**
    a. **Who is a feasible audience? How can I set this up prior to rolling out the next stage with students?** (i.e. Can students present to their community? Their friends and family? To other peers?)
    b. **How is the selected audience authentic to what students will be creating?** (ex: If students are sharing stories of their changing coasts, who most benefits from hearing these stories? Legislators? Tourists? A younger generation?)
  B. **Scope:**
    a. **What scope will you work towards for the final showcase?**
      i. **Showcase event** (plan an event for community members and authentic audience to learn about the changing coasts via the Story Maps)
      ii. **Digital sharing** (use existing social media platforms and email lists to share the Story Maps with the public)
      iii. **Student-designed** (have students design and determine how they will share their Story Maps with their audience)

Story Mapping

How can I use a map to tell the past, present and future stories of our coast?

In this Learning Moment, students take their research findings and build a draft of their story map. Begin by exploring exemplar maps on [Google Earth Voyager](). Discuss the potential impact of telling stories through maps.

Teacher challenge! Create your own map: foster an environment for critique by allowing your work to receive feedback from the students.

Review the Story Map project requirements:
- Include an interactive map
- Include at least 1 story from the coast (mo'olelo, interview, etc.)
- Include a personal narrative (your personal connection)
- Include facts from your research (informative writing)
- Include a call to action (focus on the future)

an important consideration: *Will each student create their own StoryMap? Or will the entire class collaborate on one project where they are each adding 1-3 "slides" in the presentation (1 or 2 interviews + narrative) so that all perspectives and stories are contained on one map?*

Writing Workshops: Choose a format such as direct instruction, writer's workshop, or learning stations. Provide explicit instructions to students and give them time to practice using the following techniques that are required in their Story Map:

1. **Narrative Writing (writing a personal narrative)**
   a. ***Standard****: CCSS.ELA-LITERACY.W.8.3 – Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.*
   b. ***Prompt:*** *Write a **personal narrative** that shows a "snapshot" connection between you and the coastal area featured in your Story Map. Examples might include a memory of you at the beach, a story that helps you relate to your home, etc. Write in the first person.*
2. **Informative Writing (including facts from research)**
   a. ***Standard****: CCSS.ELA-LITERACY.W.8.2 – Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.*
   b. **Prompt: Feature facts and information you gathered from your research in your Story Map. State a claim, present evidence and explain your evidence so that your audience understands it.**
3. **Citing Information (throughout the story map)**
   a. ***Standard:*** *CCSS.ELA-LITERACY.W.8.8 – Gather relevant information from multiple print and digital sources, using search*

What to collect from students:
–Students work on their [Story Map Draft]()

Type of assessment:
–Formative with feedback

Skills and content:
–Writing informative texts (CCSS.ELA-LITERACY.W.8.2)

–Writing narratives (CCSS.ELA-LITERACY.W.8.3)

–Writing process and revision/editing (CCSS.ELA-LITERACY.W.8.5)

terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

Using the provided [template] document, students draft the contents of their Story Maps for teacher feedback.

Creating maps and getting peer feedback

How can I use a digital platform to reach more people? What can I do to improve my storymap? How can I give my peers feedback that will improve their plans?

Run a Story Mapping Tutorial:
- Launch Google Earth > Projects and watch the [tutorial video.]
- Play with the different [features available:]
  - *Searching for a place*
  - *Adding a placemark*
  - *Drawing a line or a shape*
  - *Adding a full screen slide*
- Give students time to play with and become comfortable with the program before adding their Story Map information.

Create Story Maps using Google Earth Projects:
- Provide project work time for students to input their written Story Map drafts into their Google Earth Story Map.
- If natural "teams" emerge, allow students to work together in teams. Let them know that you will assess their written drafts individually for a grade.

Giving and receiving feedback from peers.
- If students are new to giving and receiving feedback, show the video **[Austin's Butterfly]**, and review what [Kind, Specific and Helpful feedback] looks like.
- Ex: *have them pair up as they finish to give and receive feedback from one another. They should complete a feedback form (or index card) for each person they give feedback to, and receive one in return.*

While students are working, you can also conference with students. This is a chance for you to meet with students in groups or 1-1, with the project rubric in hand. Think of it as a *final check-in* before the final project is presented. You may need to remind students to take a step back to the research stage.

Consider asking students:
- *How does your Story Map connect to the essential question?*
- *What part of the rubric do you think you still need to include in your project?*
- *What peer feedback did you receive that was helpful?*

What to collect from students:
–Story Map in Google Earth Projects
–Feedback form

Type of assessment:
–Summative (with feedback)

Skills and content:
–Writing informative texts (CCSS.ELA-LITERACY.W.8.2)

–Writing narratives (CCSS.ELA-LITERACY.W.8.3)

–Writing process and revision/editing (CCSS.ELA-LITERACY.W.8.5)

● *What other information does your Story Map still need to include?* *Remember to give time for students to address the feedback they've received and make revisions to their final project!*	
# Showcasing our story maps How can I teach others the stories of our changing coast? How can my Story Map be a gift to those who helped me create it, and a way to preserve stories over time? **This section will be dependent on the Audience + Scope you selected for this project.** Make sure to ensure that students have an opportunity to share their Story Maps with the selected audience. Examples might include: a. **Showcase event** (plan an event for community members and authentic audience to learn about the changing coasts via the Story Maps) b. **Digital sharing** (use existing social media platforms and email lists to share the Story Maps with the public) c. **Student designed** (have students design and determine how they will share their Story Maps with their audience) **After the public presentation,** reflection can take place in writing, verbally, through student-conferencing, or through whole class discussion. Option to use the Project Reflection document. Some **reflection questions** to guide your students through: ● What kind of feedback and questions did my audience ask me? What did I learn from this? ● What was the most challenging component of this project? ● Why is it important that we are connected to and understand the stories of our coast (the way it was, the way it is and the way it will be?) ● Now that the project is complete, how would you answer the EQ? *What impact will sea level rise and/or erosion have on your community's coastal area?*	**What to collect from students:** –Final Story Map –Selected presentation format –Project Reflection **Type of assessment:** –Summative **Skills and content:** –Using technology to produce and publish writing + ideas (CCSS.ELA-LITERACY.W.8.6) –Reflection

Assessment Tip: *Determine before the final presentation day whether you will assess the final projects/presentations before or after the public presentation. If you decide to wait until after, students can be given a chance to reflect on how the public presentation went, make any final changes and then submit to you for assessment.*