



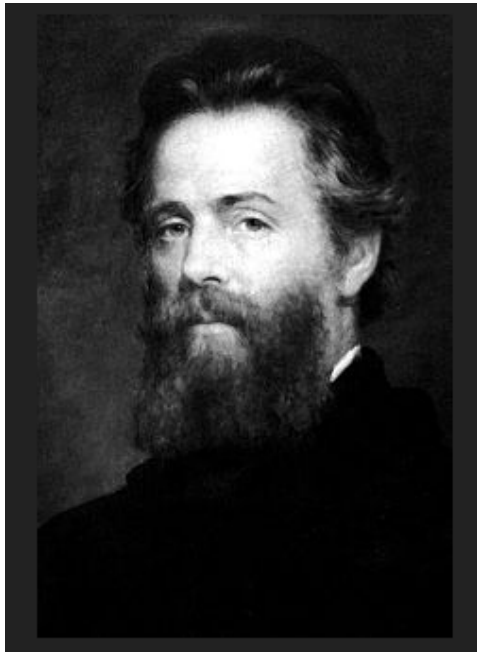
OAR NORTHWEST: EDUCATION

CWF Africa to the Americas Expedition 2013

Module: Lesson 2.2 Ocean Exploration and Human Impact

Introduction

Last week's lesson and updates focused on the traditions of exploration at sea. Concurrently, or very quickly thereafter, the information gathered about the oceans and distant lands were used to advance military and economic interests for mariners and their home lands. One example of this on a global scale is found in the histories and practices of the whaling industry. Famously, Herman Melville wrote of this period in maritime history in *Moby Dick*, however the impact of this era can be seen in many other venues of writing, art, architecture, seaboard urban growth, and geo-political events of the time. In preparation for next week's focus on Ocean Science Lesson 3.1, this week will offer an investigation into the historic human impacts on the seas.



Activity- Human impacts

The exercise here explores the question *How have humans impacted the oceans over time?* Students may be interested in wildlife, human cultures, pollution, or many other topic areas where they can see how humans have- over time- changed a very vast and seemingly static feature such as an ocean. Beginning with some of these historic changes, students will be better prepared for the scope and scale of the science coming of the OAR Northwest expedition.

Here is a link to a more in-depth exploration of whaling and navigation:

http://www.sea.edu/academics/k-12_detail/a_whaling_voyage

Learn more: <http://oarnorthwest.com/>

Contribute: Education@oarnorthwest.com

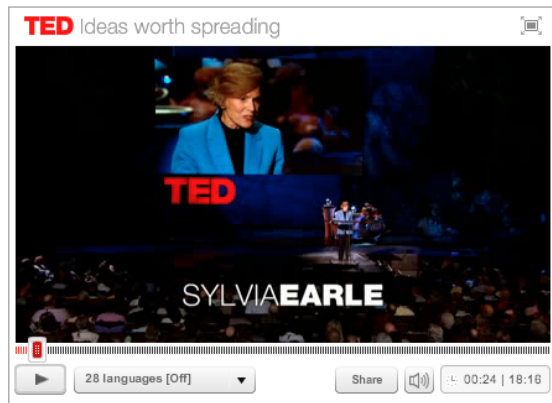


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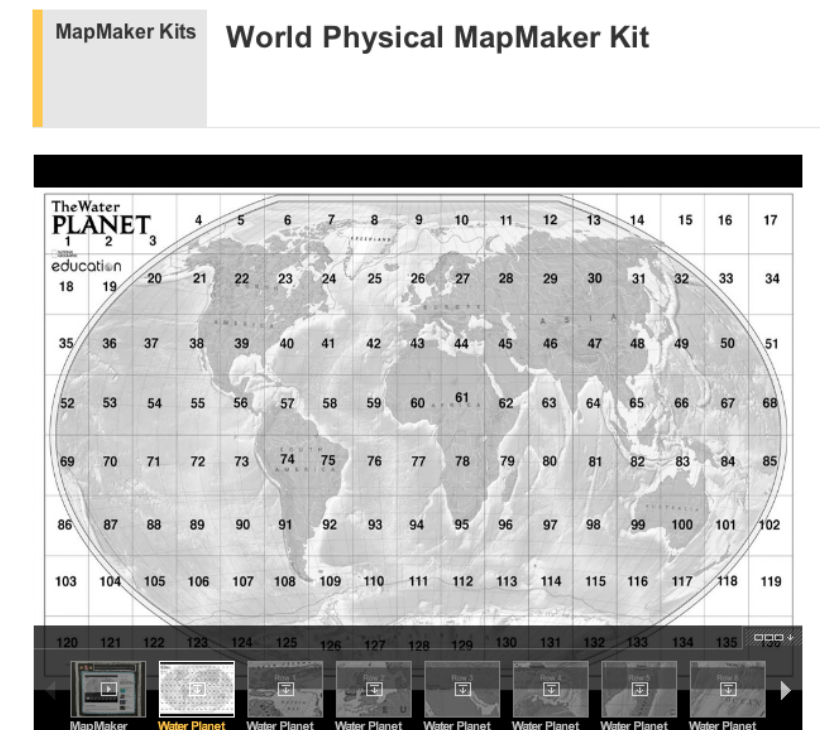
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This National Geographic lesson also connects human impacts to ocean current ocean status:
http://education.nationalgeographic.com/education/activity/your-ocean/?ar_a=1

Materials



Watch the following TED talk: http://www.tedprize.org/video/embed/earle_sylvia.html



Make your class map using the MapMaker Kit:

http://education.nationalgeographic.com/education/program/nat-geo-mapmaker-kits/?ar_a=1

Learn more: <http://oarnorthwest.com/>

Contribute: Education@oarnorthwest.com



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Activities

The following activities have been adapted from Nation Geographic Educations' "Your Ocean" lesson, found here: http://education.nationalgeographic.com/education/activity/your-ocean/?ar_a=1

1. Have students freewrite about the importance of the ocean and map their relationship to the ocean.

Tell students that for homework they will freewrite for five minutes in response to the following question: *What does the ocean mean to you?* Explain to students that they should write continuously about anything that comes to mind about the topic. Ask students not to make corrections or censor what they write. If students are struggling to make connections to the ocean because they live inland, ask them to write a story about a trip they have taken to the ocean or to write about the OAR Northwest Crew and their Expedition. For the second part of their homework, have students view a world map. Draw on the map the OAR Northwest (1) progress so far and (2) intended route towards the destination. The ask your students to do the following:

- Find their location.
- Find the closest ocean.
- Think about: *What moves from you to the ocean? What moves from the ocean to you?*

Then, for five minutes have students add to their freewriting pages in response to those same questions.

2. Have students review and discuss their freewriting homework assignments.

Using the World Physical MapMaker Kit, ask student volunteers to do the following:

- Label their location.
- Label the closest ocean.
- Use arrows, symbols, and labels to illustrate: *What moves from you to the ocean? What moves from the ocean to you?*

3. Have students find, read, and discuss a famous quote about the ocean.

Write the following quote on the board: "Even if you never have the chance to see or touch the ocean, the ocean touches you with every breath you take, every drop of water you drink, every bite you consume. Everyone, everywhere is inextricably connected to and utterly dependent upon the existence of the sea." Tell students the quote is by oceanographer Sylvia Earle, from her book *The World is Blue*. Explain that Sylvia Earle, called "Her Deepness," has been one of the most influential ocean explorers, scientists, authors, lecturers, and conservationists over the past 40 years. She has led more than 60 undersea expeditions worldwide, logging more than 6,000



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hours underwater. She was captain of the first all-female team to live in an underwater habitat and has started her own companies that design underwater vehicles, allowing scientists to explore and study depths of the ocean that were previously inaccessible to humans. In the early 1990s, Dr. Earle was chief scientist of the National Oceanic and Atmospheric Administration, and she is currently an explorer-in-residence at the National Geographic Society. She is a passionate and dedicated advocate for the world ocean and the creatures that it supports and sustains. Her work and lectures strive to educate the public about the vital role the ocean plays in supporting all life, including humans. Read the quote one more time. Give students two minutes to think about the quote and what they know about the ocean. Then have a whole-class discussion about what they think the quote means and how all people are connected to the ocean.

4. Have students watch and discuss a video clip.

Clarify terms for students, as needed. As a class, watch the 18-minute video clip of oceanographer Sylvia Earle as she makes her TED (Technology, Entertainment, Design) Prize wish: to protect our oceans. Then have a whole-class discussion. Ask:

- *What does Sylvia Earle mean when she refers to the ocean as our “life support system?”*
- *Do you agree or disagree that “health to the ocean means health to us?” Explain.*
- *Which image or graphic shown by Sylvia Earle impressed you the most? Why?*
- *What new information did you learn from Sylvia Earle’s speech?*
- *Sylvia Earle’s goal is “to ignite public support for a global network of marine protected areas.” What do you think Marine Protected Areas (MPAs) are?*
- *Sylvia Earle’s wish is for humans to do everything we can to reach that goal. What can you do to help?*

Conclusion

Whales and Sylvia Earle’s work are just a few ways we can see and learn more about the changing oceans. Invite students to monitor the news, headlines, and websites for more information about current research or events that express changes occurring in our seas. Use this information to revisit the map you made in this lesson, and take advantage of the connections to OAR Northwest voyages that are archived on the website. As students track this over time, their connections will deepen, but also become intertwined.