



Alumni Book Club: *The Deepest Map* by Laura Trethewey

Discussion Questions for Chapters 4, 5, 6

Chapters
Part 2: (pages 65-129) Chapter 4: <i>Marie Tharp and the Map that Changed the World</i> Chapter 5: <i>The Loneliest Ocean on Earth</i> Chapter 6: <i>Naming and Claiming the Seafloor</i>
Part 3: (pages 130-191) Chapter 7: <i>Crowdsourcing a Map of the Arctic</i> Chapter 8: <i>The Robot Revolution at Sea</i> Chapter 9: <i>Buried History</i>
Part 4: (pages 192-241) Chapter 10: <i>Mining the Deep</i> Chapter 11: <i>To the Bottom and Beyond</i> Epilogue
Wakelet of Shared Resources

Discussion Questions: Choose your discussion question breakout group based on your preference. Note that questions with an * at the end are classroom connection questions.

#1 SALTY

Join this room to unpack the reactions you had while reading about the plight of early female scientists and mappers.

- Compare and contrast the experiences of Cassie Bongiovanni to Marie Tharpe and/or other female scientists of the past and present.
- Did anything surprise you about the make-up of the staff, including NOAA Corps, scientists, and other crew members on your NOAA research cruise?

#2 VAST (choose part A, part B, or both!)

Part A. In 1957, Marie Tharpe and her collaborator Bruce Heezen produced the first physiographic diagram of the Atlantic Ocean.

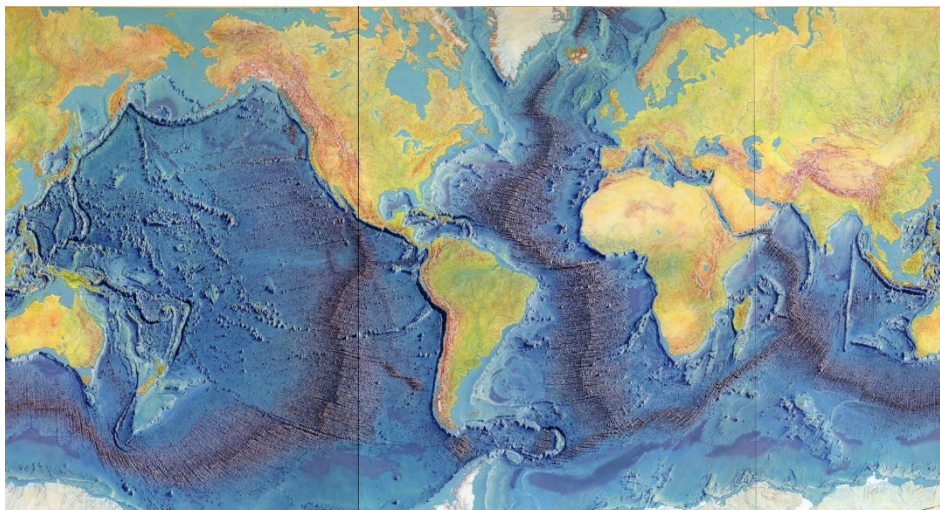
- How would you explain a physiographic diagram to your students?
- What are the benefits of this type of visualization? What are the disadvantages?
- Where did the data for this map come from?
- Why didn't Tharpe and Heezen create topographic maps of the seafloor instead?



[Physiographic Diagram of the Atlantic Ocean, Sheet 1. Bruce C. Heezen and Marie Tharp, 1957. Geography and Map Division.](#)

Part B. In 1977, in partnership with National Geographic, Tharpe and Heezen produced maps of individual oceans that culminated in the global panorama painted by Austrian artist Heinrich Berann.

- What did the map achieve for the public?
- What were issues with the painted map?
- What are some maps that you like to use with your students to open their eyes to the world around them?*



[Heinrich Berann's 1977 painting](#) of the Heezen-Tharp "World Ocean Floor" map, a landmark in cartography. Geography and Map Division.

#3 DRIFT

In 1912, Alfred Wegener presented his Pangaea hypothesis to the German Geological Society. He was the first to use the phrase continental drift. Wegner's idea was widely rejected. Trethewey notes that he was grouped among the "gallivanting generalists of the past" and his work was labeled as bad science. To be a "drifter" was still a death sentence for scientists during Tarpe and Heezen's time.

- What evidence did Marie Tarpe discover that supported continental drift?
- What else led to broad acceptance plate tectonics and continental drift today?
- Do you have any favorite teaching resources for plate tectonics?*

#4 TURBULENT

Chapter 5 is entitled "The Loneliest Ocean on Earth" and describes the Five Deeps Expedition's efforts in the Southern Ocean.

- What about the Southern Ocean that makes this a fitting title?
- How did the Five Deeps Expedition try to make sure Vescovo was diving in the deepest part of the Southern Ocean?
- What were some of the challenges faced during this part of the expedition?
- While diving to the Southern Ocean's deepest point, what did Vescovo find notable?
- In what ways might the Southern Ocean be under threat as ocean exploration breaches its far reaches?

#5 NAMELESS

In chapter 6, Trethewey shares how seafloor regions are named and reveals who is behind the process.

- What are the motivations behind exploring and naming the seafloor?
- Why do seafloor features need names?
- Who benefits from naming them?
- What example does Trethewey provide to illustrate how Indigenous rights can be factored into naming?
- How does the Sub-Committee on Undersea Features Names (SCUFN) manage the chaos of seafloor naming?

#6 POLITICAL

In 1988, geographer, cartographer, and map historian J. Brian Harley wrote that "as much as guns and warships, maps have been weapons of imperialism."

- How has seafloor mapping and naming become political in the South China Sea?
- What are the economic benefits at stake?
- International law prioritizes written evidence like maps and names over ancestral use or cultural attachments. What are the consequences of this system for legitimizing territorial gains?
- How does Seabed 2030 try to remain apolitical?