



Impact Statement

Annabelle Nam, Grade 10

Charted from the Shore, 2026

Acrylic on canvas, pastel on paper on attached illustration board, 19 x 24 inches

Horace Mann School, Bronx, NY

Unsung Hero: Marie Tharp

Marie Tharp was never allowed to step onto the ships that gathered the very data she would use to transform oceanography. While her colleague Bruce Heezen traveled across the Atlantic aboard research vessels, Tharp remained on land, translating lines of sonar data into something no one had seen before: a map of the ocean floor. After arduously graphing numerous lines of data, she noticed a pattern: a long, continuous ridge running through the Atlantic, split by a central rift valley. At the time, the idea that continents could move was widely dismissed, yet Tharp was determined to defend her findings.

I chose Marie Tharp as my Unsung Hero not only because of her discovery, but because of what her experience reveals about how knowledge is accepted. Her work was not initially rejected because it lacked evidence, but because it challenged both scientific and gender expectations. What I find most inspiring is her ability to persist without recognition or validation. Even Heezen, her partner whom she worked with for over 18 years, initially dismissed her findings as "girl talk." Yet, rather than stepping back, she continued refining her maps with determination. Her story raises a question that has stayed with me: how many discoveries have been delayed or ignored simply because of who presented them?

Tharp's impact extends far beyond the discovery of the Mid-Atlantic Ridge. Her maps provided some of the first visual evidence for plate tectonics, transforming a theory into undeniable proof. What makes her contribution especially remarkable is that it emerged entirely from exclusion. Because she was barred from research ships, she worked solely from sonar data, numbers and lines, and produced something more precise and enduring than what many with full access had managed. Her maps became a postulate beneath modern geology, navigation, and our understanding of the Earth itself. Every scientist, sailor, and student who has afterwards built upon the new profound knowledge of plate tectonics has benefited from her work, and most without ever knowing her name.

My artistic vision was to simultaneously honor both Tharp's scientific contributions and the conditions under which she made them. I chose to emphasize the sonar sounding data as the central visual element of my painting, highlighting the process behind her discovery, reminding the viewer that these maps did not emerge from imagination but from the painstaking interpretation of raw data. In the lower portion of my work, I incorporated hand-drawn topography inspired by her original maps. One detail I found particularly fascinating during my

research was that Tharp deliberately drew her maps in a realistic, illustrative style, rather than the abstract schematic style common at the time, partly to prevent their practical use by the Soviet Union. This decision resulted in beautiful and precise renderings of underwater mountains and ocean rifts. To the side of the maps she was drawing, I copied the sonar bathymetric profiles that Tharp relied on to draw her maps. Finally, the visual transition between graphed paper and the real ocean landscape represents the core of her achievement: what began as abstract numbers gradually became an undeniable reality that reshaped and laid the foundations of earth sciences.

Tharp's story has genuinely shifted how I see my own limitations. I often treat constraints—lack of experience, uncertainty, being left out of opportunities—as obstacles that hold me back. Her life reframes that entirely. However, her achievements also make me change my own outlooks on my own community. Tharp was a scientist who undoubtedly set the foundations of earth science forever, however her acknowledgement was discredited for so many years. Her story and perseverance makes me reflect on the people who have supported me behind-the-scenes shaped so much of who I am, often without the recognition she deserves. Like Tharp, these people have been a quiet foundation. Tharp's legacy has made me want to be more intentional about acknowledging the people whose invisible work I have benefited from. Going forward, I plan to share this project by presenting it to my art and science classes, and I hope to display the painting at our school's end-of-year exhibition so that more people can encounter her story. Her legacy is best captured in the words: "Not to follow where the path may lead—go, instead, where there is no path and leave a trail."