



Impact Statement

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Mapping the Unseen, 2026

Digital Art

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Unsung Hero: Marie Tharp

There are so many inspiring, exceptional individuals whose contributions shape the world in profound ways yet remain largely unrecognized. These individuals are Unsung Heroes—people whose impact extends far beyond their visibility. The Unsung Hero I chose to feature is Marie Tharp, a pioneering American oceanographic cartographer and geologist who created some of the world’s first scientific maps of the ocean floor. I was drawn to Marie Tharp not only because of her revolutionary work, but also because of her perseverance and courage as a woman in the male-dominated scientific community. She went on to change the course of history for geology and ocean exploration with her discoveries. Tharp’s story reflects determination, curiosity, and resilience, which are qualities that I admire and aspire to incorporate in my life.

Tharp was introduced to geology and cartography as a young child through her father, a soil surveyor for the U.S. Department of Agriculture. She often accompanied him in the fields to survey and map soil. During World War II, when many men left for military service, new educational opportunities opened for women. Tharp earned a master’s degree in geology at the University of Michigan, entering a field that had been historically for men.

Despite her qualifications, Tharp faced significant barriers. At Stanolind Oil Company, she could not be involved in fieldwork because of her gender and was only permitted to coordinate maps and data for male colleagues’ trips. Dissatisfied, Tharp later worked as a cartographic assistant at Lamont Geological Observatory in New York in 1948, becoming one of the first women to work there. At the time, not much was known about the seafloor—many assumed it was flat. But when Tharp and her colleague Bruce Heezen published the first map of the Atlantic Ocean seafloor in 1957, Tharp’s drawings revealed that the seafloor is covered in canyons, ridges, and mountains. Her maps revealed the existence of the mid-ocean ridges, a series of mountain ranges that extend over 40,000 miles around the globe.

Tharp walked a path that had never been taken before, but her hard work and determination resulted in fruitful outcomes. She firmly dedicated herself to seafloor research, despite her early theories about tectonic plates being dismissed as “girl talk” by many. Her work led to a period of discovery in the scientific community known as the plate tectonic revolution, which proved that Earth’s outer shell is divided into plates that move over the mantle, the hot, rocky inner layer above the core. This theory explains why earthquakes, volcanoes, and mountains form. In 1997, the Library of Congress named Tharp as one of the greatest cartographers of the 20th century. Her legacy continues to influence scientific research and exploration today.

My digital artwork seeks to capture Tharp's scientific impact of Tharp's discovery. I created a colorful underwater theme featuring Tharp, the subject of the work, the Mid-Atlantic Ridge, marine life, and elements of her map-making process. Tharp has a thoughtful expression on her face and holds a pencil that is placed right on the Mid-Atlantic Ridge. The ridge resembles a drawn line, emphasizing how her mapmaking work bridged art and science. I wanted to combine her mapmaking skills with her groundbreaking—no pun intended—discovery of the ridge. In the surrounding environment, I incorporated detailed textures and vibrant marine life such as coral, deep-sea creatures, and layered terrain, to highlight the richness of the ocean floor. These elements reinforce the idea that even in places we cannot easily see, there is complexity and beauty to be discovered.

I hope to share this artwork within my community through my personal blog, which talks about the intersection of arts and sciences. By telling her story, I hope to inform others about her work and inspire others to pursue their interests in the face of obstacles.

Marie Tharp's story has influenced the way I view both challenges and opportunities in my own life. I hope that Marie Tharp's story will help me, a teen girl figuring out who she wants to be, to not be afraid to pursue a personal passion or experience challenges or failures during that process. Marie Tharp didn't have everyone's support when she first started out, nor did her research process go smoothly the entire time, but her work proved to be groundbreaking—no pun intended—in the end.

References:

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