

Alvin is ready for science



A note from Anna Michel

Dear friends of the deep sea,

On July 22, we all celebrated when HOV *Alvin* was certified to its new depth rating of 6500 meters. Incredible teamwork and a lot of hard work by many people went into achieving this. ***Alvin* can now reach 99% of the seafloor.**

Immediately following the certification dives, a multidisciplinary team of scientists, engineers, students, and outreach specialists joined R/V *Atlantis* for the Science Verification Expedition. Our goal was to test the sub's ability to conduct science at these new abyssal and upper hadal depths. Both this expedition and *Alvin*'s overhaul were made possible by funding from the National Science Foundation.

The first leg of the cruise took *Alvin* to the Puerto Rico Trench and was led by Adam Soule, former Chief Scientist for Deep Submergence at the Facility, now URI Professor of Oceanography. The second leg, which I led, brought *Alvin* to the Mid-Cayman Rise.

Throughout the expedition, *Alvin* demonstrated its capabilities to conduct science at these new depths, diving fourteen times with eleven first-time divers. We collected 122 samples, dove at the world's deepest known hydrothermal system, and spent 53 hours exploring the seafloor. **We encourage you to learn more about the new capabilities of HOV *Alvin* and what we were able to achieve by exploring the links below.**

This week *Alvin* returns to full science operations with Chief Scientist Dave Valentine (University of California, Santa Barbara) leading a joint *Alvin* and autonomous underwater vehicle *Sentry* cruise at oil seeps in the Gulf of Mexico. Valentine's team is studying the fate of hydrocarbons that enter the ocean. This team also includes many new students and postdocs that we hope will be inspired to become the next generation of *Alvin* users.

I grew up on the Florida Gulf Coast, and am intently watching Hurricane Ian and my own hometown brace for the storm. While I am excited to share the news of *Alvin*'s return to science with its dives in the Gulf, my thoughts are with those impacted by Ian and am hoping for the best for all those in its path.

Best regards,
Dr. Anna PM Michel
Chief Scientist for Deep Submergence
Fall 2022

The faces of science verification



"My science comic profiles are to help kids today expand their possibilities by tracing the paths of all kinds of people working in science in all kinds of ways."

"I spent the *Alvin* expedition drawing as fast as I could, with one ear cocked toward scientists processing samples, planning dives, or telling stories about what they've seen. There was excitement and discovery everywhere."

—Karen Romano Young

During her time on *Alvin*'s science verification expedition, artist, writer, and educator Karen Romano Young created illustrated stories highlighting the scientists, engineers, and crew members who made the expedition possible. The illustrated profiles are part of Young's ongoing project, "I Was a Kid." She documented a science verification team that intentionally included early-career ocean scientists, as well as individuals from a diverse array of backgrounds. [Take a look at the whole collection here.](#)

Sea stories

[Listen to a podcast with Rosa León Zayas](#), Willamette University environmental microbiologist, as she recounts a (quite deep) first dive in *Alvin*

[Read a Cape Cod Times story](#): "The little sub that could: Woods Hole tests the limits of science with '*Alvin*' submersible"

[Visit the expedition blog](#) to learn how the whole journey unfolded, from the first verification dive to the last. [This profile of Alvin Engineer Nick O'Sadcia](#)—who started his deep submergence career as a summer intern in the lab of WHOI marine microbiologist Julie Huber—is a particularly good read.

Sampled with #Alvin6500

