



Cori Moran
The Richards Group
614-975-9790
CaladanOceanic@richards.com

Caladan Oceanic Sets New Mapping Record, Completes 2020 Expedition Series

Victor Vescovo and crew of DSSV Pressure Drop map over 1 million km² of deep ocean and complete other groundbreaking research in the Northern Mariana Trench Arc

DALLAS (September 2, 2020) – Caladan Oceanic, led by explorer Victor Vescovo, and partners EYOS Expeditions, Triton Submarines and the National Oceanic and Atmospheric Administration (NOAA) completed the final phase of their 2020 expedition series. They completed the detailed mapping of over 1 million km² of deep ocean since December 2019 – a significant new record and pace in deep ocean mapping. They have also examined the bathymetry and living organisms in some of the most remote locations in the Northern Mariana and “Ring of Fire” Arc. See [here](#) for a map of the course taken since the beginning of the 2020 expeditions.

1 Million Square Kilometer Mapping Record

After less than two years in operation, Caladan Oceanic’s Deep Submergence Support Vessel (DSSV) *Pressure Drop* has recently collected its one millionth square kilometer of bathymetric data, an area nearly equivalent to the size of France and Spain combined. See the course taken over 2-year period, [here](#).

The mapping program led by Cassie Bongiovanni, in collaboration with the University of New Hampshire’s Center for Coastal and Ocean Mapping and the Nippon Foundation’s GEBCO, has collected data around the world in support of deep-sea science and exploration, NOAA, and the Nippon Foundation’s *Seabed 2030* initiative. From the nearly 1,060,000 km² total, almost 515,000 km² of high-resolution data have been collected covering more than 20 of the deepest geologic features in the world in detail. “These data are essential for a deep understanding of our oceans and will be the foundation of scientific studies for years to come,” says Bongiovanni.

Seabed 2030 is an international effort to map the world’s oceans at high-resolution by the year 2030. Outfitted with a full ocean depth rated Kongsberg EM 124 sonar, the DSSV *Pressure Drop* has focused its mapping efforts on the deepest parts of the ocean and areas less likely to be reached by others. “It’s been the opportunity of a lifetime to shed light on complex parts of the world rarely, if ever, seen by humans and in such detail,” Bongiovanni adds. In line with Caladan Oceanic’s commitment to the *Seabed 2030* initiative and to science, all bathymetric data will be contributed to the cause and made publicly available.

Mapping highlights can be found below:

- [Challenger Deep, Mariana Trench, Pacific Ocean \[2019-2020 Field Season\]](#)
- [Meteor Deep, South Sandwich Trench, Southern Ocean \[2019 Field Season\]](#)
- [Dordrecht Deep, Diamantina Fracture Zone, Indian Ocean \[2019 Field Season\]](#)
- [Kebrit Brine Pool and Suakin Deep, Red Sea \[2020 Field Season\]](#)
- [Black Hole, Pacific Ocean \[2020 Field Season\]](#)
- [Aleutian Trench, Pacific Ocean \[2020 Field Season\]](#)

Scientific Lander Missions

Caladan Oceanic's science team – led by hadal zone (6,000 to 11,000 meters) expert Dr. Alan Jamieson of Artamus Oceanic – successfully conducted fifteen lander deployments at the deepest points in the Northern Mariana Trench Arc. When combined with the data already captured from Challenger Deep and Sirena Deep, Caladan Oceanic now has a full array of depths, latitudes, and slopes in which to address the true population structure of the Mariana Trench.

Additional findings from 5,578 m at the Mariana Trench's Nero Deep include “layered volcanics” or a relic hydrothermal edifice known as a flange. The discovery of these formations will help the science team learn more about the ancient hydrothermal systems and the life that they support. See footage of the discovery [here](#). The team also discovered at least one new species of fish never observed before.

Scientific landers were also sent to the five points at the bottom of the geological formation known as the Black Hole. The goal was to determine whether species that live in trenches or other features deeper than 6,500 meters can move between trenches due to the varying depths.

Formally known as the Sui-shin Hole, the Black Hole is located at approximately 25°N, 136°E in the middle of the Philippine tectonic plate, underlying the Philippine Sea region of the Northwest Pacific Ocean. It is 33 nautical miles long by 8 nautical miles wide and reaches a maximum depth of over 6,000 meters. To its east and west, a series of plateaus decrease in depth with distance from the hole. (See an image of the Black Hole and surrounding areas [here](#).)

The initial findings from the Black Hole largely disprove many of the hypotheses about genetic connectivity of deep ocean trenches and support the idea that each of these deep geomorphological features hosts an isolated population of certain species. The usual and expected hadal zone species are indeed present at 6,400 meters, the deepest part of the Black Hole, but they inhabit only the bottom 25 meters. No depths on the boundary of the hole are sufficient to allow passage from the hole to the next nearest hadal zone, an area north around the Koho Hole. Although many other species were numerous at the Black Hole, they were known and characteristic of typical abyssal-hadal transition zones of the Pacific Rim.

Deep-Sea Mapping Missions

After the extensive scientific research in the Northern Mariana Trench Arc, the crew completed an approximately 7,000-mile deep-sea mapping mission of the Izu-Bonin, Kamchatka, and Aleutian Islands Trenches (see map [here](#)). The team collected vast amounts of detailed bathymetric data, including high-priority areas determined by NOAA in the Aleutian Trench to further map the United States' Exclusive Economic Zone (EEZ). Four specific "Deeps" along the "Ring of Fire" arc were visited utilizing a Triton 36000/2 and became the subject of more direct investigation than by any previous expedition.

All releases, plus footage and photos of each section of the mission, are viewable on CaladanOceanic.com. Follow us on Twitter @CaladanOceanic, Instagram @CaladanOceanic and Facebook @CaladanOceanic for ongoing updates.

About Caladan Oceanic

Caladan Oceanic is a private company dedicated to the advancement of undersea technology and supporting expeditions to increase the understanding of the oceans. Founder Victor Vescovo, a former commander in the U.S. Navy, has long had a passion for exploration and has summited the highest peak on all seven of the world's continents, including Mount Everest, and skied at least 100 kilometers to the North and South Poles. With the completion of the Five Deeps Expedition in August 2019, Vescovo became the first person in history to have been to the top of all the world's continents, reached both poles, and descended to the bottom of all its oceans. He also holds the record for the most dives to the bottom of Challenger Deep, the deepest point on the planet – a total of eight times. He was awarded the Explorer's Club Medal in March 2020.

About Triton Submarines, LLC

Triton Submarines of Sebastian, Florida, is the most experienced civil submarine producer in the world today – and the only contemporary manufacturer of acrylic-pressure-hull-equipped personal submarines to deliver multiple classed and certified vessels capable of diving to 3,300 feet (1,000 meters) and to full ocean depth (11,000 meters). Triton Submarines senior staff members have over 350 combined years of experience with more than 80 different submersibles, and their operations team have together logged over 25,000 dives. Triton clients enjoy superlative after-sales service and technical support from a company dedicated to their total satisfaction.

About EYOS Expeditions

EYOS Expeditions has been designing complex and challenging expeditions for private vessels since 2008. Drawing on the decades of experience of the company's cofounders, the EYOS team has delivered over 1,200 safe and successful expeditions to some of the most remote destinations on Earth. EYOS Expeditions holds several "world firsts" and routinely takes clients to destinations rarely or never before visited. EYOS Expeditions and sister company Expedition Voyager Consultants have worked behind the scenes on many of the industry's groundbreaking itineraries and have a long history of delivering once-in-a-lifetime experiences for clients while

maintaining the highest standards of safety, professionalism and environmental stewardship. EYOS Expeditions is today regarded as the industry leader for planning and operating remote expeditions using submersibles.