FACEPLATE

The Official Newsletter for the Divers and Salvors of the United States Navy

Volume 30, No. 1 / March 2026

In This Issue...

FACEPLATE

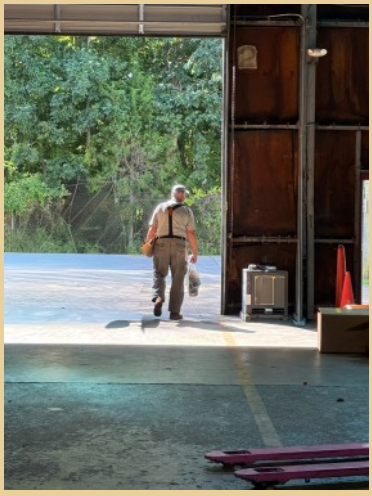
FACEPLATE is published by the Supervisor of Salvage and Diving to make the latest and most informative news available to the Navy diving and salvage community. Discussions or illustrations of commercial products do not imply endorsement by the Supervisor of Salvage and Diving or the U.S.Navy.

Articles, letters, queries and comments should be directed to the Commander, Naval Sea Systems Command, NAVSEA 00C, 1333 Isaac Hull Ave. SE Stop 1070, Washington Navy Yard, DC 20376-1070. (Attn: FACEPLATE). Visit our website at **http://www.navsea.navy.mil/Home/SUPSALV/00C3-Diving/Faceplate-Magazine/** to view/print Faceplate.

Editorial Staff

In This Issue

Cover



With over fifty years of active duty and civilian service, MDV (ret) Paul Schadow turns over the watch at ESSM Cheatham Annex (August 2025).

SUPSALV SENDS ...CAPT John Bauer

Every generation of Navy Divers is defined by how far they are willing to go—how deep they will dive, how hard they will push, and how steadfast they will remain in the face of the unknown. Today, I say with confidence that our salvage and diving community is not just meeting that standard—we are redefining it, daily!

At the heart of our innovation stands the Navy Experimental Diving Unit (NEDU). Through relentless testing, and strong partnership with customers, NEDU continues to shape the future of undersea operations. Game-changing equipment, forward-thinking procedures, and evolving diving rules are not concepts for tomorrow—they are being tested today. This work ensures our divers remain lethal, resilient, and protected as we operate in environments where failure is not an option.

Diving technology advances with the Deep Sea Expeditionary No Decompression (DSEND) suit, enabling divers to complete missions at depths of 300fsw and greater with no decompression.

Our Salvage Teams continue to capture the attention of the world by doing what few others can. They go deeper, stay longer, and recover what others cannot reach. Now, they are being deliberately tasked to operate at the

very limits of human capability—down to the maximum depths of the ocean itself. In 2025, during a search and recovery operation, SEA 00C2 set a deep ocean recovery world record of approximately 19,000 fsw. These missions are not simply about recovery; they are about proving what disciplined teams, advanced technology, and unwavering resolve can achieve in the most unforgiving environment on Earth. From the darkest reaches of the ocean floor, our Salvage professionals bring back more than lost material—they return confidence, capability, and assurance that no depth is beyond our Navy's reach.

Across the globe, our Husbandry Teams are quietly transforming fleet readiness. Through game-changing innovation and the execution of first-ever underwater jobs, they are proving that ingenuity thrives where the challenge calls. These teams are returning operational time back to the warfighters!

None of this happens without trust—and that trust is built by our Certification Team. These professionals are our silent sentinels, standing watch over standards, training, and safety. Their vigilance keeps our team prepared, qualified, and out of harm's way. While their victories rarely make headlines, every safe ascent and successful mission bears their signature.

Momentum is also building at the leadership level. The Dive Executive Steering Committee (ESC) and Salvage ESC are back—energized, engaged, and committed to meaningful change. Efforts such as strengthening the Executive Agent role for the Navy Diver rating demonstrates our resolve to invest in the future of the force and ensure the right decisions are made for our future divers.

One constant remains clear: change is happening. I ask that we all keep in mind; the speed of change will always outpace one's comfort, and victory will belong to those whose attitude turns uncertainty into advantage.

It is an honor to serve as the Supervisor of Salvage and Diving. Our best days are not behind us—they are ahead, waiting at depth. Keep the press!

Deep Sea Expeditionary No Decompression (DSEND) Suit In-Water Demonstration

By: Paul McMurtrie, NAVSEA
Diving Systems Program Manager

The Deep Sea Expeditionary No Decompression (DSEND) in-water demonstration was held at the University of Maryland Neutral Buoyancy Research Facility on 9-12 June 2025, successfully demonstrating the functionality and capabilities of this new diving technology. This light weight, 1 atmosphere (ATA) dive suit will allow fleet divers to perform diving and salvage missions rapidly and safely to depths of 600fsw and greater with no decompression.

The demonstration highlighted the current prototype suit with updated articulating and rotating joints, which allows divers in the suit to perform several simulated tasks that mimic real world diving and salvage scenarios. During the demonstration the DSEND suit diver was able to crawl deep inside an aircraft fuselage to recover a body "Dummy" and bring it out to a lift basket 100' away. This is something that no ROV or existing 1 ATA dive suit could accomplish. The response and maneuverability of DSEND enables divers to walk and work on the bottom easily, very much like a typical hard hat diver, and can be adjusted to accommodate different size divers.

Many of the older atmospheric suits can be viewed as basically manned submersibles shaped like humans. DSEND is different because a diver can walk and crawl on the bottom — go inside of wreckage and recover debris — something the older suits couldn't do.

In the DSEND suit, divers use the Divers Augmented Vision Display (DAVD), which provides high-resolution imagery, an augmented-reality display, and real-time information sharing. During the in-water demonstration, divers were able to support a simulated salvage operation of a downed aircraft at 50 fsw by performing a debris field assessment with sonar and integration of CODA DAVD, remove a body from inside the fuselage, recover the blackbox and other critical components, and the diver was able to perform complicated rigging operations and even tie a bowline.

"Diving is inherently dangerous," said Chief Petty Officer Jacob Eastland, a diver at NUWC Keyport. "Everything down there is designed to hurt us. With this DSEND suit, you're pretty safe against cutting yourself, crushing your fingers, smashing your legs. It gives us the capability to do our jobs significantly easier and safer."

With the self-contained life support system equipped in DSEND, the diver can work deeper for longer hours and ascend directly to the surface without the drawn-out process of decompression. "Decompression sickness is a major injury risk for divers, and potentially fatal," said Dr. Sandra Chapman, ONR Program Officer. "It significantly limits how divers are able to perform their jobs because of the safety risks imposed by how the gasses

Naval Undersea Warfare Center divers participating in the DSEND Suit in water demonstration.

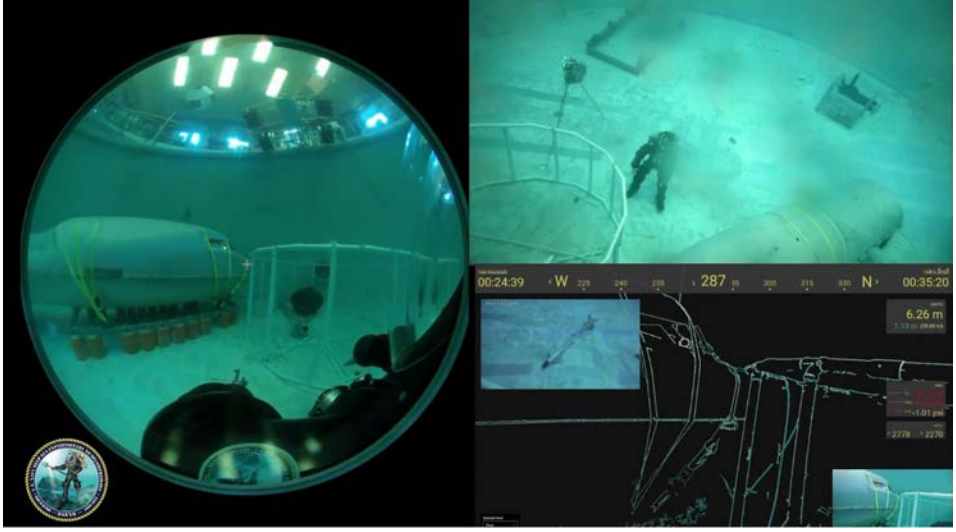
NUWC Diver being lowered in 25' tank during the DSEND Suit in water demonstration.

in our blood and tissues react to changing pressures. Being a one-atmosphere dive system, DSEND eliminates that problem by making it so the diver is basically at the same pressure as someone on land," she continued. "Similar to how submariners are protected from the pressures of the deep."

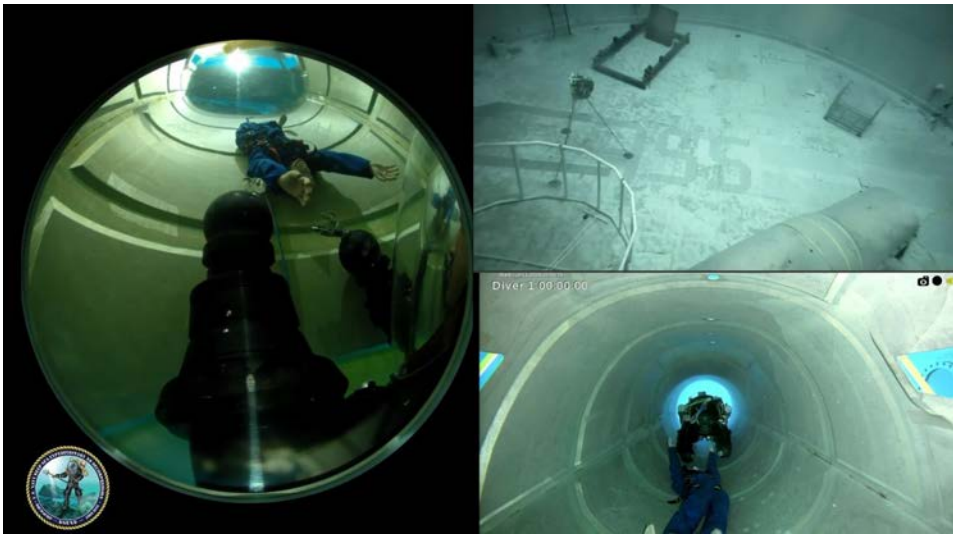
The last Navy Atmospheric Diving Suit (ADS) retired in 2017 after years of limited and declining use due to the large size, heavy weight, and rigidness that limited diver performance, and required a relatively large sea craft to deploy. DSEND shows a significant reduction in cost per hour on bottom, reduced transport logistics, reduced personnel to dive, and reduced size and demands of vessel of opportunity.

DSEND's development partners include ONR, NAVSEA, Johns Hopkins Applied Physics Laboratory, the University of Washington Applied Physics Laboratory, Naval Undersea Warfare Center (NUWC), and Naval Surface Warfare Center (NSWC). Further design developments continue, including deeper depths to 600fsw or more, slimmer suit, and further refinement of the joints, grippers, and hand attachments.

Article cover photo: Diver conducting underwater simulating fuselage entry and human remains recovery in DSEND suit during the in water demonstration.



Diver's view underwater simulating explosive asset recovery in DSEND suit. Diver Augmented Vision Display (DAVD) "heads-up display" in the helmet shown bottom right.



Diver's view underwater simulating fuselage entry and human remains recovery in DSEND suit. Diver Augmented Vision Display (DAVD) "heads-up display" in the helmet shown bottom right.

Captain Cameron Chen participates in the DSEND Suit in water demonstration.

Building the Future of the Navy Diver Community Page

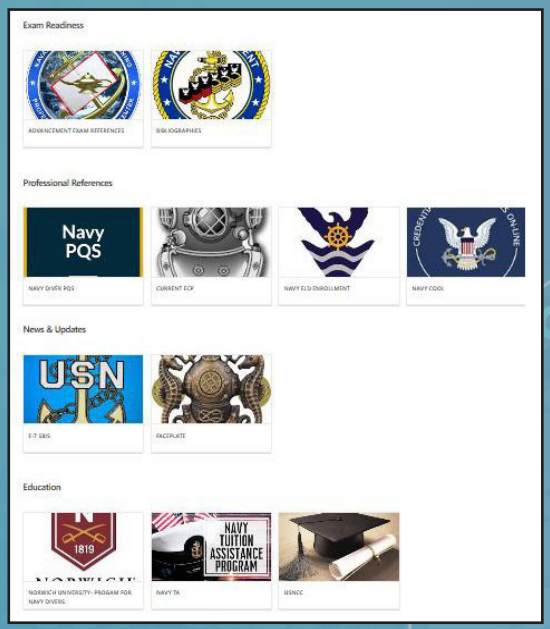
By: NDCS (DWS/SW/EXW) Hugo Rangel


Navy Diver Community Page

The Navy Diver community thrives on teamwork, shared knowledge, and mentorship across every generation of divers. With each new class of Navy Divers reporting to the fleet, the responsibility to train, guide, and prepare them for advancement falls squarely on the shoulders of those who came before. In today's digital age, this responsibility is best met by centralizing information in a way that is accessible, reliable, and transparent for the entire force. That idea, simple but powerful, sparked the creation of the **Navy Diver Community Page**. Modeled after the successful approach of the Seabee community, this Microsoft Teams-based platform consolidates professional resources, updates, and exam preparation material into one location. The long-term vision is to make it the go-to hub for everything Navy Diver, from advancement prep to senior-level discussions shaping the future of our rating.

A One-Stop Shop for Advancement Preparation

One of the strongest motivators behind the creation of the page was the advancement exam. Until recently, hyperlinks to references were provided to Sailors preparing for their exams, but that practice has ended. Instead, divers were left navigating a maze of different portals, outdated links, or scattered references to locate the material they needed. During the most recent Advancement Examination Readiness Review (AERR) at NETPDC, the subject matter expert team recognized this issue and acted. With guidance from the NETPDC ND Team Lead, the idea was born to create a **centralized repository** where every diver, whether fresh out of ND 'A' School or preparing for the Master Diver exam, could access updated bibliographies, manuals, and study references. The Community Page now houses these essential resources, ensuring that no one is disadvantaged by lack of access or outdated materials. This is more than just convenience. It's about fairness, transparency, and supporting the growth of our divers. By removing barriers to advancement, we set every diver up for success and strengthen the community as a whole.



Beyond Exams: Updates and Professional Development

While exam preparation was the starting point, the scope of the Community Page quickly expanded. Traditionally, updates about policies, opportunities, or changes within the Navy Diver community were distributed via email, often sent only to CWO and MDV personnel. That system meant information sometimes took days to trickle down to junior divers, if it reached them at all.

The Community Page changes that. By serving as a centralized hub for news and updates, the platform ensures that information flows directly to the entire force in real-time. Sailors can find community announcements, professional references, and personal development tools all in one place, without relying on secondhand updates.

The Master Diver Corner

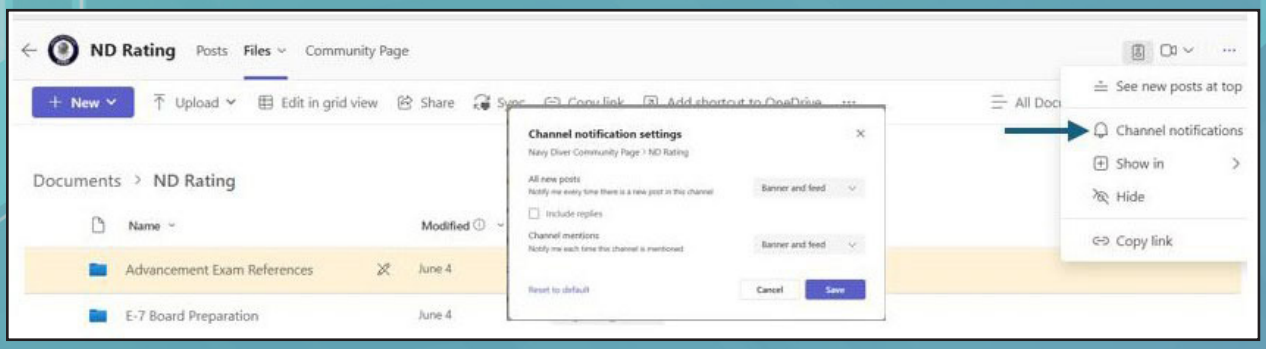
A key feature of the platform is the private **Master Diver Channel**, a space specifically designed for senior enlisted leaders. This channel allows Master Divers to exchange information, discuss policy implications, and collaborate on community-wide issues. It's a professional forum where candid discussions can take place, decisions can be refined, and future guidance for the Navy Diver community can be shaped.

Master Divers are encouraged to use this corner not just as a bulletin board, but as an actual collaboration space. It's designed to bring unity among senior leaders and strengthen mentorship efforts across the rating.

Staying Connected: Turn On Notifications

For the platform to be effective, divers need to stay engaged. One of the simplest ways to do this is by joining the page and enabling notifications in the Teams channel. By turning on alerts, Sailors at every level can ensure they never miss a new post, whether it's an updated exam bibliography, a professional opportunity, or guidance from senior leadership.

This small step ensures the flow of information reaches its destination: the deck plates where divers operate every day.



Looking Ahead

The Navy Diver Community Page is more than a digital bulletin board, it's the foundation of a new way for our community to share knowledge, mentor future generations, and maintain the high standards expected of our rating. As it grows, the page will continue to evolve, incorporating new tools and resources that strengthen our divers both professionally and personally.

Every Navy Diver has a stake in this initiative. By engaging with the page, sharing feedback, and contributing to discussions, we collectively ensure that the Navy Diver community remains connected, informed, and prepared for the challenges ahead.

The creation of this page reflects who we are: a community built on teamwork, knowledge, and the relentless pursuit of excellence.

ND Rating | Navy Diver Community Page | Microsoft Teams

For Teams page questions, please contact NDCS (DWS/SW/EXW) Hugo Rangel, MDSU ONE, at hugo.a.rangel.mil@us.navy.mil

Paul Schadow

By: Robyn McGinn

As my mentor and friend, Mr. Paul Schadow, steps into retirement, it's hard not to feel both immense gratitude and deep admiration. His steady guidance, quiet strength, and unwavering belief in those around him have left a lasting mark on every life he's touched. His commitment to excellence has shaped the Navy diving community and inspired all those who have served and worked alongside him. His influence transcends through the military and civilian professionals he's mentored and the missions he's supported across the decades of selfless service.

Paul Schadow joined the U.S. Navy in 1969 as a Machinist's Mate and earned his Navy Master Diver qualification in 1983. He spent years at sea — notably aboard the USS Kittiwake (ASR-13) and USS Safeguard (ARS-50) — before retiring from Mobile Diving & Salvage Unit ONE (MDSU-1) in 1999. Submerged in the cold depths of the ocean, encased in heavy brass and steel, he sustained pressure, isolation, and the unknown but also taught generations of men and women not just how to dive, but how to endure, how to respect the sea, and how to trust their instincts when everything around them was dark and uncertain. Under his guidance, our military divers became harder, sharper, and more grounded — forged by real-world experience and hardship. Topside, he carried the quiet strength of one who goes where others cannot — a symbol of courage in the depths where every breath is earned.

Upon his retirement from active duty, Paul became the Emergency Ship Salvage Material (ESSM) Dive Depot Program Manager at Naval Weapons Station Cheatham Annex in 1999. There he continued his legacy, providing expert services and supporting our military divers with critical maintenance, repair, and logistics for diving systems, ensuring equipment readiness and safety in operational environments worldwide.

That's where I had the privilege of working alongside him, when I began my career at the Naval Sea Systems Command Diving Programs Office (NAVSEA 00C). I met Paul in my early twenties, just starting out and knowing next to nothing. I stumbled through tasks, often unsure of myself, but Paul never coddled me. He was firm, sometimes blunt, but always focused on pushing me to grow. He didn't hand me answers—he made me earn them. His words were few but weighted, shaped by years of experience, each story and lesson wrapped in salt, grit, and quiet pride.

He taught me that supporting our diving warfighters is about far more than equipment and logistics — it's about preserving lives, enhancing mission success, and honoring the commitment of those who operate in the most demanding environments. Behind our military divers was Paul and his team at ESSM, all who believed in safeguarding the well-being of those in the water — making sure that when the call comes, our divers had the tools and systems they needed to operate safely and effectively.

Paul's mentorship was more than guidance – it was a foundation. Every mistake was a lesson, every correction a reminder that growth comes through pressure. He didn't just teach you skills; he taught you how to carry yourself with purpose. He pushed you when you slacked, called you out when you were wrong, but always has your back when it counted. His advice wasn't always gentle but was honest and indelible. His presence turned doubt into discipline, because he saw something in you that you couldn't yet see in yourself — and since he refused to lower the bar, you learned to rise to meet it. He believed in you, often more than you believed in yourself, and that quiet confidence pushed you to meet his expectations — and your own. It was not just about learning; it was about becoming someone you can be proud of.

Hooyah,

Master Chief Master Diver! After 30 years of dedicated military service and 26 years of civilian service, we send you off with deep respect and heartfelt thanks. You've been a compass to so many — showing us not only how to do the work, but how to do it with integrity, compassion, and purpose. Though you may be leaving the day-to-day behind, your influence will echo in the choices we make, the lessons we pass down, and the people we continue to become.

Thank you for the many years of keeping our divers safe, and for teaching us how to keep others safe. You've passed your mastery of diving and salvage to generations of Navy Divers, and also maintained diving life support systems with the highest standards to ensure the men and women of our diving Navy have the breathing air they need to accomplish the Navy's most specialized missions.

On behalf of the entire Navy Diver community — past and present — we thank you for your service, sacrifice, and your example. You will be deeply missed Schadow! **Fair winds and following seas.** ....and any time a young diver grabs an adjustable wrench during maintenance, your presence will not be forgotten.

Silent Strength: Evolving Capabilities at NSSF Groton

By: CWO2 Michael Baum- Diving Officer, Naval Submarine Support Facility (NSSF) Groton, CT

Over the past few years, the divers at NSSF Groton have steadily expanded their impact well beyond the Thames River. As the primary diving support for North Atlantic-based SSN-class submarines, our mission has always demanded technical precision, adaptability, and speed. Recently, our team has taken further steps to enhance our readiness, build upon deployable capabilities, and invest in our people.

One of our proudest achievements has been the development and deployment of a fully self-contained fly-away dive box, designed to support emergent underwater maintenance for afloat salvage and emergency UWSH in forward locations, specifically in the High North Arctic theater. This initiative, built by divers for divers, has proven its value during recent missions to Norway and Scotland, where we conducted port surveys and re-compression chamber assessments to evaluate the host nation's dive support infrastructure. These missions also resulted in site-specific Diving Emergency Plans, created with interoperability in mind, and now serve as a model for future deployments involving a dive system placed in-country.

In parallel, we have leaned into innovation through the successful stand-up of the Navy's first standardized ROV program using the VideoRay

Top (L to R): ND2 Jimmy Interiano deploys the Defender ROV off the stern of YDT-3; Anchoring evolution conducted aboard 60 DS YDT-4 during Diver Support Vessel training, led by Captain Morgan's Boat Training and Charters; Braving the chill, ND2 Mike Pirrone showcases a slab of ice pulled from the frozen Thames River, winter 2024. Bottom (L to R): NDC Chris Carrington operates the Defender ROV during a pier inspection on the NSSF waterfront; NSSF conducting a diving evolution during Fly-away tasking in Norway; CWO2 Michael Baum re-enlists ND1 Jacob Nolan during a 165-foot recompression chamber dive at the Naval Submarine School's Pressurized Submarine Escape Training Tank.

Defender. What started as an idea to enhance diver safety and improve pre- and post-inspection capabilities has evolved into a fully qualified program. We have trained six operators and two supervisors and have already used the system on numerous inspections and recoveries. The ROV is now a routine part of our toolbox, extending our reach without increasing risk. Additionally, the structured framework of this new program enables us to qualify personnel under additional Navy Enlisted Classification (NEC) codes, further enhancing individual career progression and operational readiness.

Back at homeport, we turned our attention to small craft operations - reinvigorating the 60DS boat program with a complete overhaul of the Coxswain and POIC qualification pipeline. One of our most impactful initiatives was the implementation of a Craftmaster program, receiving approval from N96 IAW MILPERSMAN 1200-040, enabling Diver and Support Coxswains to demonstrate their technical proficiency and earn qualification as Craftmasters aboard our 60DS Diving Tenders. NSSF are owners of four 60DS craft that requires tremendous core skills to safely and effectively operate in and out of military controlled harbors and waterways. Our new program emphasizes real-world seamanship and practical underway evolutions that directly support our UWSH mission here. Since establishing this program, we have qualified six new Craftmasters and further increased the confidence in our boat program across the waterfront. The result has positively incentivized the ND and support rate personnel for higher credentials for career progression.

In addition to our operational work, we have placed a renewed emphasis on building the next generation of Navy divers. Recognizing the unique demands of submarine SCUBA operations, our team developed a dedicated Diver Candidate Program explicitly tailored for SUBLANT SCUBA candidates. Designed to mentally and physically prepare Sailors for Dive School, our program has dispatched 61 candidates since its increasing the Force's historical 70% graduation rate to 92%. In the same lane, we crafted and implemented a SCUBA Supervisor Course of Instruction tailored to the needs of the Submarine Force, resulting in six newly qualified SCUBA Supervisors under this focused pipeline. All of these efforts culminated in the execution of five Diving Operational Readiness Inspections (DORIs), conducted by the NSSF Dive Locker for tended units across the waterfront, reinforcing standards, ensuring mission readiness, and strengthening diving knowledge and safety.

The work is not always visible, but it matters. Whether under the hull, underway, or overseas, our divers continue to meet the mission with quiet professionalism and an unshakable commitment to each other and the fleet.

Top (L to R): NSSF R-6 Division Winter 2023. U.S. Navy Photo by John Narewski; ND1 Matt Lamparzyk delivers a pre-dive brief to Dive Team One prior to commencing the day's underwater operations. Bottom (L to R): ND2 Donte McClure poses with a recovered Bridal Air Coverplate located and retrieved using the VideoRay Defender Remotely Operated Vehicle (ROV); YDT-4 is craned and placed on blocks to initiate its 2025 Continuous Maintenance Availability, enabling critical maintenance and upkeep of the 60DS platform. U.S. Navy Photo by John Narewski; NSSF R-6 Division Summer 2025. U.S. Navy Photo by Tim Martin.

Diving Into the Future:
Supporting the Next Generation of Underwater Explorers

By: Steve Mulholland

At the Man in the Sea Museum in Panama City Beach, Florida, we don't just preserve the past—we invest in the future. As the nation's only museum dedicated solely to military diving history, we are proud to support the families of military divers through our annual scholarship program, helping the next generation pursue their educational goals.

The Man in the Sea Museum Scholarship is open to the children and stepchildren (or other DoD-recognized dependents) of U.S. Military Divers. Scholarships are awarded exclusively for initial 2-year or 4-year regionally accredited undergraduate degree programs or a career and technical education (CTE) program. Applicants may reapply each year as long as they continue to meet the criteria. Applications for the next cycle will open on January 20, 2026.

In 2025, we proudly awarded scholarships to five outstanding students: Kaden Sawyer – Virginia Beach, VA; Jenna Barker – Panama City Beach, FL; Joseph Moebius III – Portland, TX; Deijah Diego – Silverdale, WA; and Reid McMurtrie – Cazenovia, NY. These recipients exemplify the values of service, dedication, and academic excellence that the scholarship seeks to support.

To help fund this program, the museum offers the NAUI Military Dive Card Program, which provides military divers with a commemorative NAUI certification card recognizing their training and service. Whether you trained at NDSTC, Washington D.C., or another military dive school, the museum can help you secure a card that honors your legacy. Proceeds from this program directly support the scholarship fund, making it a meaningful way to give back while preserving your diving heritage.

Donations also play a vital role in sustaining and expanding the scholarship program. Every contribution—large or small—helps ensure that deserving students connected to the military diving community have access to the educational opportunities they need to succeed.

How You Can Help:

- Purchase a NAUI Military Dive Card
- Make a tax-deductible donation directly to the scholarship fund
- Sponsor a scholarship in honor or memory of a diver
- Share our mission with others who may want to support or apply

Together, we can preserve the legacy of military diving and empower the future.
Learn more at **www.maninthesea.org**.

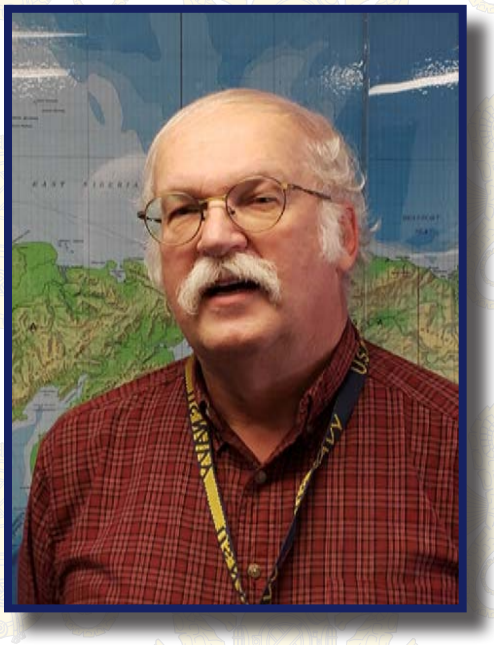
SEA 00C Departures

Bill Reid, 00C5 Underwater Ship Husbandry (UWSH) Division Director
February 2007 – May 2025

After a 20-year active-duty career, including a tour at 00C serving as an UWSH Project Officer, Bill came back to SUPSALV in March 2005 where he took the position of UWSH Propulsion Systems Engineer. There, Bill wrote and implemented the procedure for checking and verifying Controllable Pitch Propeller (CPP) Blade Bolt Tightness. When surface conditions changed within SUPSALV, Bill moved up to the NAVSEA 00C5 UWSH Division Head Director position. During his tenure, Bill successfully led the response to the collision of USS Newport News (SSN 750) and a super tanker in the Straits of Hormuz; implemented the development and use of a large/complex full rudder cofferdam for hyperbaric weld repairs on DDG's; improved Underwater Welding (UWW) rudder repair processes which greatly reduced the frequency of multiple/repeat repair events on the same rudder and ship by over 75%; and successfully led many other first time UWSH operations. Bill's leadership was one of respect to every team member with providing mentorship, training, and opportunities to all, and continuing the UWSH tradition of continuously improved robust support to the US Navy fleet.

Michael Frey, 00C4 Division Director/System Certification Authority
February 2000 – September 2025

After spending over 25 years in 00C4, serving 15 years as the 00C4 Division Head and Diving Systems Certification Authority (SCA) Mike retired on 30 September 2025. During his tenure in 00C4 he served as the UBA Certification Manager until 2010 when he was selected as the Division Head/SCA. Among the many changes he led during his tenure he is most proud of pushing the OPNAV policy change to one SCA for all Navy Diving Systems. Justin Pollack has been appointed as the Acting 00C4 Division Head/SCA.



Tom Galloway
00C3 Diving Systems Engineer
April 1985 – May 2025

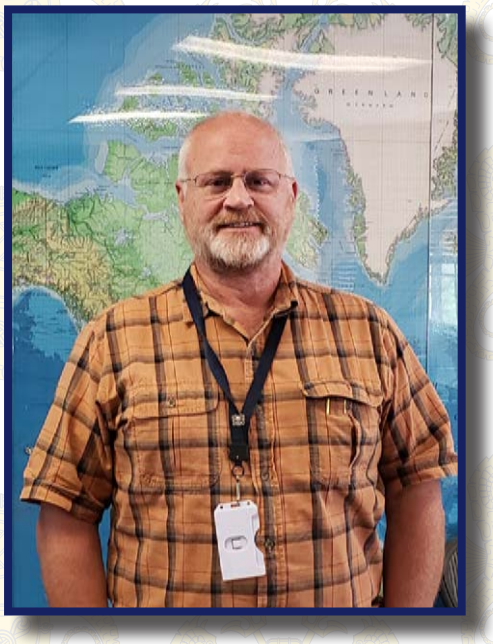
Tom came to 00C3 after spending over 15 years as an offshore commercial diver and manned hyperbaric systems engineer. During Tom's tenure in 00C3 he was the principal engineer in the design and fielding of the Transportable Recompression Chamber System, Emergency Evacuation Hyperbaric System and Program Manager for the Submarine Rescue Diving Recompression System.

Paul Hankins
00C2 Director of Salvage Operations and Ocean Engineering
June 2020 – May 2025

After over 30 years of distinguished service in marine salvage and ocean engineering, Paul Hankins retired as the Director of Salvage Operations and Ocean Engineering in May 2025. As a Salvage Expert, Paul oversaw numerous salvage missions around the globe and was instrumental in leading the Key Bridge Salvage efforts. Prior to his role at 00C2, Paul served as Vice President of Salvage at Donjon Marine Co., Inc. (2011 to 2020), President of the American Salvage Association (2013-2015), and President of Donjon-Smit, LLC (2005-2011). Earlier in his career, Paul held key positions at the Transportation Security Administration as Deputy Assistant Administrator (2002-2005), and within Alyeska Pipeline Service Company. Paul served as the Environmental Program Manager at the Supervisor of Salvage and Diving (1991-1998), where he led critical salvage operations and environmental programs, setting the foundation for his long and successful career in marine emergency response and recovery. Paul was commissioned from the US Naval Academy in 1981 and served as a Surface Warfare Officer from 1981-1989 and later in the Navy Reserves for 11 years. Eric Brege has been appointed the Acting Director of Salvage Operations and Ocean Engineering.

Richard Schoenwiesner, 00C3 Diving Program Director
May 2010- May 2025

Rich first came to 00C working in Underwater Ships Husbandry Division for six years. He then served a stint in NAVSEA 05 as a Ship Design Manager before coming back to 00C. Rich started in 00C4 as the first Special Operations Command/Naval Special Warfare designated engineer liaison. He was selected for that position due to his significant engineering and operational experience in Deep Submergence Systems and submarine diving operations. In 2020, Rich was selected as the 00C3 Diving Division Program Director. Among his many significant accomplishments in this position he led the revision the U.S. Navy General Specifications for Diving and Manned Hyperbaric Systems to its current state. Robyn McGinn has been appointed the Acting Diving Division Director.



Brendan Murphy, 00C4 Certification Manager
July 2002 – March 2025

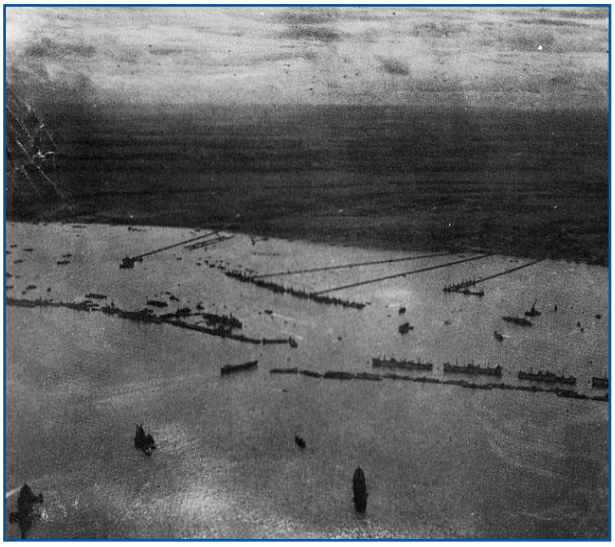
Brendan began his tenure as a System Certification Manager in 2002, after completing a 21-year Navy career in 1999, retiring as a Master Chief Quarter Master/Master Diver. During his tenure in 00C4 he was responsible for leading the modifications and certification of diver life support systems on board the ARS 50 class from active duty to MSC, initial certification of the Morgan Crane diver handling system and implementing significant changes in 00C4's certification surveys operating procedures. Of all his accomplishments he was most proud of teaching new divers of 00C's and in particular their role as a diver significant support to the NAVSEA enterprise and overall mission of the Navy. Over his 44 years between active duty and as a Certification Manager he mentored many divers and Master Divers leaving the Navy a bit better as he sailed into retirement.

This Day in Diving History

By: MDV David Gove

Operation Overlord (D-Day)

On the 6th June, 1944, the largest amphibious assault in history was launched against the Normandy coast - its ultimate goal, the establishment of an allied foothold in Nazi-occupied France. This involved both an airborne and seaborne assault by allied forces. On D-Day alone, there were around 10,000 casualties. Two of the operations in support of Operation Overlord directly involved Salvors; Operation Neptune and Operation Mulberries.



OPERATION NEPTUNE:

Operation Neptune was the Naval operation in support of Operation Overlord. As this was the largest amphibious and logistics operation in history, it involved huge naval forces, including 1213 naval combat ships, 4126 landing ships/craft, and 736 ancillary vessels. Of these, there were 10 Salvage and Wreck Disposal groups - each group consisting of three vessels. Armed salvage tugs were used not only to retrieve vessels in distress but also to pull many of the landing craft across the English Channel prior to the invasion itself. This was because nearly 50% of all landing craft were not capable of crossing the Channel under their own power. The Salvage vessels weighed on average 700 tons, had a crew of 30 and a top speed of 13 knots. They were armed with one 3-inch gun, two 20-mm guns and two .303-inch machine guns.

During the invasion, all craft disabled on the beach were moved to maintenance areas out of the way of traffic; or in the case of major landing craft, patched up and towed to repair vessels lying off shore. Maintenance and repair were provided by reinforced units both ashore and afloat. Barges equipped with lathes, welding apparatus, cranes, etc. were brought alongside disabled craft

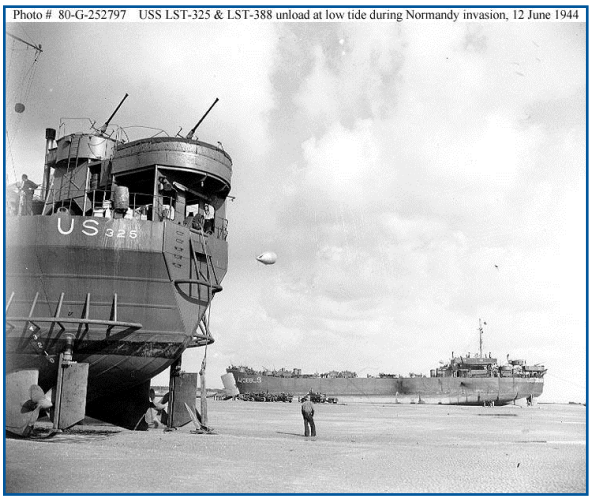


Photo # 80-G-252797 USS LST-325 & LST-388 unload at low tide during Normandy invasion, 12 June 1944

afloat and on the beach when necessary. Much specialized equipment such as bulldozers, etc., with attached "A" frames and a great deal of ingenuity was necessary to refloat craft "heaped" on the flat beaches. General salvage policy dictated that:

1. Craft sunk in deep water was not an immediate commitment;
2. Craft working from the near shore received only first aid repairs to enable their return;
3. All units tackled any class of work on all types of craft to the limit of their own capacity;
4. Beaches were kept clear even at the cost of demolition and sinking of partially destroyed craft.

OPERATION MULBERRIES (Mulberry Harbors):

The logistical details for the invasion presented a tremendous problem. It was all very well to land troops on the beaches of Normandy, but once in place they had to be kept supplied with immense quantities of ammunition, food, and weapons. How were these supplies to keep flowing without a harbor? There was a limit to what landing craft could do. The idea of starting off the invasion by capturing one of the heavily defended French ports was out of the question. The decision was made that two massive portable harbors would be built to be placed outside the invasion sites - these would be known as "The Mulberry Harbors". These were huge artificial harbors / floating sea-bases, consisting of several elements. These included massive reinforced concrete caissons, breakwaters, floating roadways and piers to name a few. A complete Mulberry Harbor was constructed out of 600,000 tons of concrete between 33 jetties, and had 10 miles of floating roadways to land men and vehicles on the beach.

On D-Day, armed salvage vessels began to tow the Mulberry Harbors across the English Channel to prearranged sites on the French shore and assembled them upon arrival. Block ships were sunk off the coast to create protection from the open sea allowing them to be up and running only three days following the invasion. In the first 109 days of the invasion, the Allies put ashore 2,500,000 troops, more than half a million vehicles, and 17 million ship tons of munitions, weapons and supplies--a task that could not possibly have been achieved without the portable harbors.

Note: For further info on the Mulberry Harbors, check out the book -- Code Name "Mulberry": The Planning Building an Operation of the Normandy Harbors by Guy Hartcup (Author).

For Those About to Rock (We Salute You).....

MDV David Gove, your friendly neighborhood Master Diver. Copyright David Gove, 2021.

Conquering the Depths:

How Navy Research is Pushing the Boundaries of Human Diving

By: Dr. Chapman, CAPT Dierks, and LCDR Lindhome

The future of undersea medicine and military diving bubbled into view at the joint program review hosted by the Naval Sea Systems Command (NAVSEA) Deep Submergence Biomedical Development Program and the Office of Naval Research (ONR) Undersea Medicine program from March 11-13, 2025. From breakthroughs in treating decompression sickness to the development of revolutionary rescue technologies, the event showcased the cutting-edge research poised to transform how the Navy operates beneath the waves.

Keynote speakers included Captain Salvador Suarez (then serving as Commander, Supervisor of Diving and Salvage, NAVSEA 00C), who emphasized the impact of ship's husbandry diving operations that often have significant return on investment for the fleet but continue to present challenges such as harsh environments, contaminated water and higher risk diving techniques that support further S&T investment to resolve. Recent technical advancements with ROVs and USVs present new opportunities to expand mission capabilities through diver-robot teaming. Commander Casey Rogers (OPNAV N97 Deputy Director for Diving) discussed upcoming Navy diving policy updates and the importance of standardization across the Navy and international partners. Dr. Dawn Kernagis (DEEP) presented on the research activities planned for Deep's future modular undersea habitats, including training and safety procedures.

The program review concluded with a virtual tour of the Navy Experimental Diving Unit (NEDU), the Navy's test and evaluation authority for diving equipment and a key player in procedural development. Detailed descriptions of the projects can be found here: https://navsea-navy-mil.libguides.com/c.php?g=1313337&p=9771362

The ONR Undersea Medicine program, directed by Dr. Sandra Chapman, develops science and technology solutions aimed at optimizing submariner and diver health and performance and enhancing the flexibility, efficiency and safety of undersea warfighter missions.

The U.S. Navy Deep Submergence Biomedical Development Program sponsors biomedical research aimed at improving diver health, safety, and effectiveness as well as improving the survivability of submariners in a disabled submarine (DISSUB) scenario.

Dr. Chapman is Program Officer for the Office of Naval Research, Code 342 Undersea Medicine and Marine Mammal Health. CAPT Dierks is an Undersea Medical Officer who manages the NAVSEA Deep Submergence Biomedical Development Program. LCDR Lindhome is a nuclear-trained Surface Warfare Officer with the Office of Naval Research, Reserve Component.

Information on new and continuing project updates to follow:

Thermal Strain from Diving in Warm, Contaminated Water

Lead Researchers:
Dr. Dave Hostler, Dr. Hayden Hess, Dr. Morgan Worley, Mr. Josh Murphey - University at Buffalo, Center for Research and Education in Special Environments (CRESE)

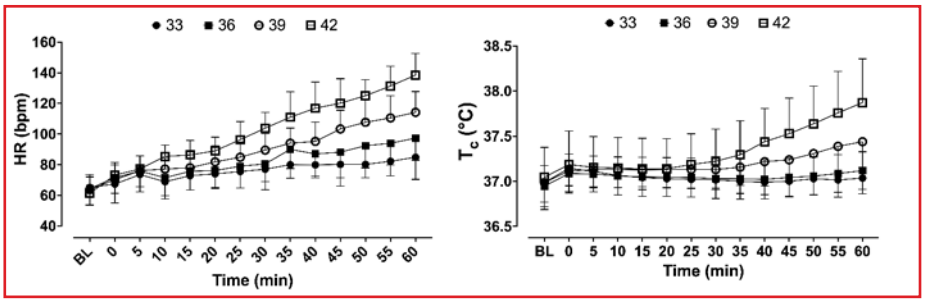
Description of Project:
This project seeks to better understand the physiological impact of increased thermal strain on a diver wearing personal protective equipment to dive in contaminated water. By expanding on a warm water diving study conducted at the Navy Experimental Diving Unit (NEDU) in the 1990s, this project seeks to explore the potential operational implications across the Navy diving community.

Theory of Operation:
Three distinct investigations are contained within this project, each of which seeks to better understand the impact of warm-water diving on divers wearing a Category 1 contaminated diving ensemble prescribed by NAVSEA Guidance for Diving in Contaminated Waters. The first goal is to determine how fast a diver's core temperature will rise to a specific threshold (38.5 C) doing moderate-intensity work in water of various temperatures (and see if this is impacted by pre-cooling the diver with a phase-change cooling vest before the work begins). Secondly, the same investigation will be conducted on subjects simulating standby divers. Third, changes to cardiovascular physiology after exercise in warm water will be examined, expanding upon the original NEDU warm-water diving study, where divers reported weakness and presyncopal symptoms, including dizziness and feeling lightheaded, after exiting the water during study participation.

Benefits of Project:
Given the potential warm water operating environments that military divers may encounter in a variety of geographic areas of operation, a better understanding of diver response to this environment, particularly when wearing PPE and conducting strenuous work, will prevent environmental injuries to these divers while maximizing task accomplishment. If interventions such as diver pre-cooling demonstrate efficacy, integrating these into diving doctrine could offer extended work times in demanding environmental conditions.

Current Status of Project:
Heat stress observed in initial trials did not significantly impact experimental divers, resulting in a complete revision of the experimental protocol. Further trials are ongoing A notable observation in standby diver trials is the rapid rise in body temperature after 30 minutes of exposure to sitting in 39C (~102F) and 42C (~107F) air. Exposure exceeding these parameters is likely to lead to diver physiological impairment with associated mission impact.

Future Project Goals:
Future work includes additional investigation with a revised protocol into safe dive times for working divers in warm water environments and the associated impact on their cardiovascular physiology, including after pre-cooling has been conducted.



(Image by Dr. Dave Hostler): Standby diver heart rate (left) and core temperature (right) rise over time during immersion at four specific temperatures.

Robot Aided Diver Navigation in Mapped Environments (ROADMAP)

Lead Researchers:
Dr. Nikola Mišković; Dr. Iain Anderson; Dr. Đula Nađ; Dr. Derek Orbaugh Antillon, PhD; Mr. Igor Kvasić; Mr. Vladimir Slošić; Mr. Luka Mandić

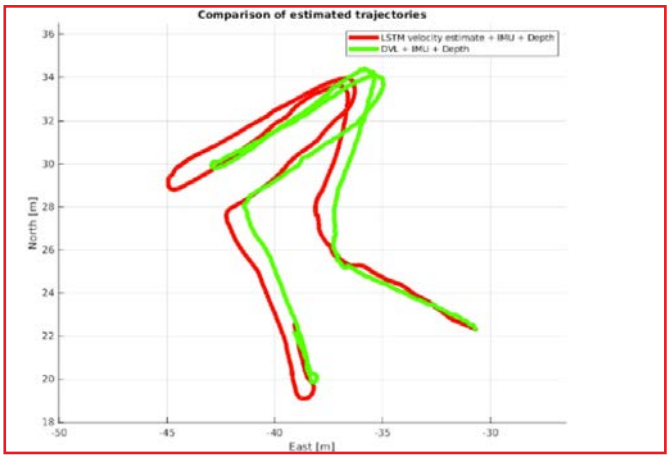
Description of Project:
This project addresses the challenges of underwater diver navigation in harsh conditions, including low/zero visibility and cluttered environments, which are common operating areas for Navy divers. This project has two main goals, the first of which is to develop a precise, cost-effective autonomous underwater vehicle (AUV) with navigation capabilities to integrate with divers. The other main goal of this project involves creating wearable sensors to measure diver physiologic parameters, enable diver – AUV interaction, and support standalone diver navigation.

One outcome of the project was the successful transfer of advanced inertial navigation algorithms - originally developed for autonomous underwater vehicles - onto the diver's onboard computer. This capability was enabled by integrating data from a smart wetsuit equipped with inertial and stretch sensors, creating a direct link between diver motion and precise navigation performance.

Theory of Operation:
The system employs a neural network to translate diver leg and fin motions into swim velocity estimates, effectively establishing an inertial navigation capability for divers analogous to pedestrian indoor inertial navigation.

Benefits of Project:
This technology enhances diver self-sufficiency by providing accurate underwater navigation even when not directly supported by an AUV. The capability is of direct and tangible benefit to a variety of subspecialties within the Navy diving community.

Current Status of Project:
Accomplishments over the past year have included development and human subject validation of this diver dead-reckoning system utilizing only sensors mounted to the diver in addition to the development of wearable ECG sensors capable of monitoring various electrophysiological parameters during saltwater diving operations.



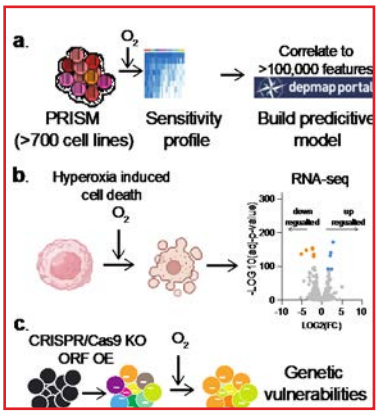
(Image by Mr. Vladimir Slošić) This demonstrates the comparison between a swim trajectory obtained using DVL-aided diver navigation (in green) and inertial only diver dead-reckoning using the developed algorithm (in red). The dive trajectory is 150m long and the algorithms achieves a 1.5m average error on this semi-closed trajectory. On straight line trajectories, the error is between 5-10% of distance traveled. The measurements were obtained in lake dives during project ROADMAP experiments.

Mechanisms of Hyperoxia Induced Cell Death

Lead Researchers: Dr. Peter Tsvetkov, Dr. Todd Golub, Ms. Ava Perry – Broad Institute of the Massachusetts Institute of Technology and Harvard

Description of Project:
Hyperoxia, or elevated oxygen levels, have deleterious effects leading to tissue damage and cell death, despite the importance of oxygen for energy production and life sustainment. Previous investigations have highlighted the role of oxidative stress and both apoptotic and non-apoptotic signaling pathways in hyperoxia-induced cell death, but the precise cellular-level mechanism remains unknown. Defining this cellular mechanism is critical for the investigation of future therapeutic options.

Theory of Operation:
To determine the involvement of pathways involved in cell death due to hyperoxia, cell viability in both short term (1-4 days) and long-term (10-14 days) settings is evaluated in the presence of inhibitors which target apoptosis (programmed cell death), necroptosis (regulated form of necrosis), and ferroptosis (iron-dependent cell death). PRISM-based analysis (Profiling Relative Inhibition Simultaneously in Mixtures) determines the sensitivity of cell lines to varied oxygen concentrations, aligning cellular sensitivity to gene expression, mutations, and gene knockout sensitivity data, allowing predictive characteristics to be identified. Gene expression profiling highlights cells demonstrating resistance or sensitivity to oxygen, which will be further analyzed to determine a genetic signature which can be associated with hyperoxia. Finally, whole-genome screening seeks to identify genes that are associated with hyperoxia-induced cellular death. The three-pronged approach is designed to yield a comprehensive map of pathways that outline the mechanisms of hyperoxia-induced cell death.



(Image by Dr. Peter Tsvetkov) Three methods for determining hyperoxia-induced cellular death are displayed: a) PRISM-based profiling b) Gene expression profiling. c) CRISPR/Cas12a whole genome loss-of-function and overexpression screens.

Benefits of Project:
By precisely defining the cellular-level mechanisms directly responsible for hyperoxia-induced cell death, potential therapeutic modalities can be identified, directly benefiting divers who have the potential for exposure to hyperoxic conditions.

Current Status of Project:
This project systematically defined the cellular mechanisms of hyperoxia-induced cell death by integrating viability profiling, CRISPR genetic screens, PRISM assays, and transcriptomics across hundreds of human cell lines. The investigators established that exposure above 60% O_2 induces significant cytotoxicity, engaging both apoptotic and non-apoptotic death pathways, including lipid peroxidation–linked ferroptosis. PRISM profiling revealed that sensitivity to hyperoxia correlates with elevated DNA replication stress, cell cycle activity, and mitochondrial dependence, whereas resistance associates with vesicle trafficking and anti-apoptotic signaling. Transcriptomic analyses identified universal induction of p53 and ER stress pathways and suppression of proliferation programs. A genome-wide CRISPR screen uncovered novel regulators of hyperoxia sensitivity, notably implicating the lipid kinase PIKfyve and its product $PI(3,5)P_2$, linking rare lipid signaling to oxygen toxicity. Together, these findings define the molecular architecture of hyperoxia-induced cell death, uncover unexpected metabolic and signaling pathways that mediate oxygen toxicity, and highlight potential targets to mitigate hyperoxia-related tissue injury.

Future Project Goals:
Future goals include extending further analysis of neurological cell lines to better understand lineage-specific vulnerabilities to hyperoxia, identifying genetic signatures associated with hyperoxic stress responses, and functionally characterizing the key genes uncovered in the genome-wide CRISPR screens. These studies will clarify how the newly identified regulators, including PIKfyve and other modulators of lipid and mitochondrial metabolism, contribute to oxygen toxicity and may uncover new therapeutic targets to mitigate hyperoxia-induced injury.

A Wearable Sweat Sensor System for Inflammatory Responses Assessment Post SCUBA Diving

Lead Researchers:
Dr. Wei Gao, California Institute of Technology and Dr. Stephen Thom, University of Maryland

Description of Project:
The body's immune, nervous, and endocrine systems share portions of the biological stress response, exhibited in divers and nondivers alike. Microparticles carrying oxidative enzymes and cytokines are elevated in both humans and in rodent models during exposure to high gas pressure, directly aligning with the naval applications of diving and disabled submarine rescue. Though blood sampling methods can easily identify these microparticles, this requires significant logistical support for analysis and is not a portable nor field-expedient method. A wearable sensor analyzing sweat offers an alternative method to evaluate microparticles and inflammatory biomarkers, with a variety of potential future applications.

Theory of Operation:
This project explores several aspects concerning the biological analysis of biomarkers in sweat and their associated implementation in the context of naval diving. Investigators' initial aim involves development of sensors for analysis of sweat inflammatory biomarkers (interleukin-1β, interleukin-6 and phosphatidylserine-rich microparticles). Phosphatidylserine is present on the surface of microparticles and serves as a surrogate marker for their presence and concentration. Then, a wearable system will be devised allowing accurate, noninvasive sweat analysis. Finally, the sweat inflammatory biomarker responses to stresses experienced during SCUBA diving will be explored. Human subject blood and sweat samples will be analyzed before, during, and after exposures in a hyperbaric chamber to validate sensor efficacy.

Benefits of Project:
By better understanding the inflammatory process experienced by human divers associated with exposure to high gas pressure through a wearable sweat sensor system, investigators will be better able to characterize the body's response to underwater stresses, directly benefitting Navy divers.

Current Status of Project:
This is a new project which began in January of 2025. Preliminary data suggest that detected microparticles in divers' sweat demonstrate a pro-inflammatory response, as predicted. The wearable individual sweat patch for inflammation testing (WISPINT) technology was recently developed and features a small, flexible sensor array using graphene electrodes.

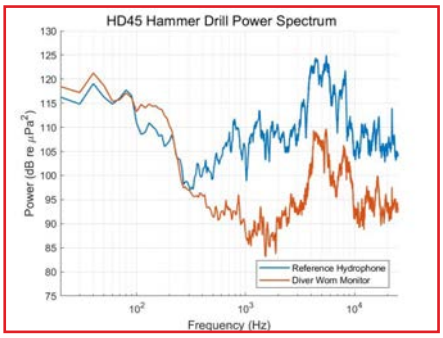
Future Project Goals:
Experimental data will be obtained from human subjects before, during, and after hyperbaric chamber trials. Blood samples will be collected and used to validate the accuracy of WISPINT patches. Additionally, sweat will be recovered for subsequent flow cytometry and sweat ELISA (enzyme-linked immunosorbent assay) studies to further characterize the content.

(Image by Dr. Wei Gao) This displays a wearable sweat sensor protype that will be used to measure biomarkers associated with the human stress response to diving.

Development of Underwater Noise Dosimeters for Characterizing Navy Diver Acoustic Exposures

Lead Researchers: Dr. Brandon Casper, Dr. Kristine Sonstrom Malowski, Mr. Matt Babina, Mr. Matt Daley – Naval Submarine Medical Research Laboratory

Project Updates:
This project investigates two wearable devices, the Diver Worn Monitor (DWM, referred to in the December 2024 edition as "record everything" dosimeter) and the Diver Worn Dosimeter (DWD, which notifies the diver via indicator light that a set decibel threshold has been exceeded). Both devices are designed to enhance diver safety by alerting the diver when potentially harmful conditions exist (DWD) or by capturing data for the development of acoustic safety doctrine (DWM). Advances since last year's report include operational testing of the DWD and DWM through collaborative training with Underwater Construction Team (UCT) 2 at Port Hueneme, CA. Data from both prototype devices were validated against data obtained from a Commercial Off-The-Shelf (COTS) reference hydrophone while divers tested a variety of tools common to the UCT mission set including a chainsaw, a chipping hammer, and hammer drill.



(Image by Dr. Brandon Casper): Diver Worn Monitor (DWM) captured noise data of a hammer drill compared to a reference hydrophone during operational testing. Note that higher frequency energy is lower in the DWM, possibly due to a shadowing effect of the helmet.

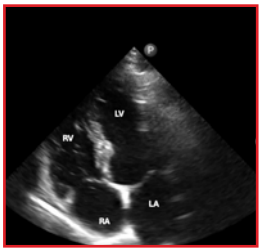
(U.S. Navy Photo) Operational testing wearable devices performed with Underwater Construction Team 2 in Port Hueneme, CA. The diver featured is wearing a COTS reference hydrophone (A), the Diver Worn Dosimeter (B) and Diver Worn Monitor (C).

Future Project Goals:
Future experimentation will focus on changing device placement to minimize self-generated noise that has demonstrated interference with device operation. Possible device locations could include the diver's upper arm or helmet. Smaller devices will improve ease of wear by the diver and are an avenue for future research. Finally, more testing in operational environments is necessary. Future experiments will also pair pre- and post-hearing tests with diver noise exposures to explore the potential for hearing threshold shifts based on noise dose.

Toward Real-Time Control of Decompression with Venous Gas Emboli (VGE)

Lead Researchers: Dr. David Doolette, Dr. Gregory Murphy, and Dr. Alex Klemp, NEDU.

Project Updates:
This project remains focused on investigating whether VGE measured during diver decompression can be used to both modify decompression sequences based on a diver's measured physiological parameters and offer data for new decompression models, leading to improvements in prescribed decompression profiles. Building on last year's successful demonstration of 2-D echocardiography image acquisition during decompression in a hyperbaric chamber, 52 manned dives in the NEDU Ocean Simulation Facility (OSF) were conducted where divers were subjected to one of two different decompression schedules (those used in the previously conducted NEDU "Deep Stops" trial).



(Images by Dr. David Doolette, NEDU) 2-D echocardiography demonstrates VGE in a diver's right ventricle (RV) and right atrium (RA) after an experimental dive.

Future Project Goals:
With approximately one-half of manned dives completed, it was determined that more efficient decompression was associated with a low level of detectable VGE during decompression whereas inefficient decompression was associated with no detectable VGE during decompression, potentially paving the way for future wearable devices providing personalized decompression sequences based on detected VGE.

Deployment of Automated Ultrasound Venous Gas Emboli Detection in Real-World Practice

Lead Researchers:
Dr. Virginie Papadopoulou and Dr. Arian Azarang – University of North Carolina

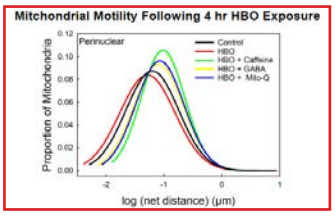
(Image by Dr. Virginie Papadopoulou) Deep-learning based VGE detection with transthoracic echocardiography is used to identify VGE in a test subject. Each green square outlines a VGE present in the right ventricle (top left) or right atrium (bottom left).

Project Updates:
Investigators, in collaboration with UC San Diego, continue to add individual digitized Doppler ultrasound files to a preexisting repository, now over 10,000 individual samples, with additional recordings of grade 4 venous gas emboli (VGE) obtained (a goal for this year). Artificial intelligence models maintained strong performance on the expanded Doppler VGE grading dataset, achieving agreement levels comparable to those of human raters. Doppler and echocardiography automated VGE grading models have been developed for tablets and laptop computers, facilitating future portable implementation. Currently, in collaboration with DAN (Divers Alert Network) and Duke University, real-time Doppler and echocardiography trials are being performed after both field dives and in a hyperbaric chamber. Finally, a new late ventricular diastole step in the pipeline for VGE detection in videos, focused on the tricuspid valve region, has yielded excellent results and agreement with human raters.

Future Project Goals:
The entire 10,000-sample Doppler dataset is being organized for public release. Additional manned dives in both field and hyperbaric chamber conditions will be performed to complete the real-time AI performance evaluation for VGE in both Doppler and echocardiography.

Mitochondrial Stress and Cellular Protection in Undersea Medicine

Lead Researchers: Dr. David Eckmann – The Ohio State University



(Image by Dr. David Eckmann) Mitochondrial motility is demonstrated following four-hour hyperbaric oxygen exposure and exposure to caffeine, MitoQ, and GABA.

Project Updates:
Research has focused on whether pharmacologic interventions can mitigate mitochondrial dysfunction from oxygen toxicity in pulmonary cells. Each experiment proved that mitochondrial motility was altered in hyperoxic exposures. Three experimental treatment options: caffeine, GABA (gamma-aminobutyric acid), and MitoQ, each exhibit different effects on pulmonary cells subjected to hyperbaric oxygen compared those cells who have normobaric/hyperoxic induced oxygen toxicity. In order of decreasing efficacy, caffeine, MitoQ, and GABA preserve intracellular bioenergetic capacity in those pulmonary cells that receive a hyperbaric oxygen insult, but the cells do not return to their baseline bioenergetic level. Further analysis demonstrates that both redistribution of mitochondria toward the cell nucleus and electron transport chain protein upregulation contribute to these demonstrated effects, however inner membrane potential variation does not, further clarifying the mechanism by which mitochondrial motility is negatively impacted by hyperbaric environments. Further understanding of these mechanisms sheds light on unknown aspects of the human physiological response to the stresses of military diving.

Future Project Goals:
This project is in its final year, with the finalized results published in Oxidative Medicine and Cellular Longevity https://onlinelibrary.wiley.com/doi/10.1155/omcl/5589475

The Old Master

NDCM(DWS/EXW/SW)
William Wenzel

Deep Sea, it has been my pleasure and a privilege to work beside the most diverse and ever changing community in the Navy. This road I started 32 years ago has had its ups and downs, but what keeps everything on solid ground is the people within the community. In the beginning of my career, I found myself on the USS AMERICA (CV66), and yes, she is resting on the bottom of the ocean. This ship is where I learned about the little things - friendships and mentors - that ship laid the groundwork for leadership. It took me a bit to get to 2nd Class dive school but looking back at that young BM2 going I wouldn't change a thing. I can say without hesitation that I have been blessed to be part of this amazing community and it is something I will cherish for the rest of my life. And as they say, "Time flies when you're having fun", and I have had fun....I am proud of my achievements and consider myself fortunate to have served with everyone because without the men and women of this community there wouldn't be any achievements. The Navy has introduced many things in the last three decades from becoming our own rate the five-vector model to MNA and there will be more, all of these presents unique obstacles for the diving community. The experience that you gain during change is the most valuable asset you have to influence change. Some things cannot be taught or learned, experience teaches us, and some things must be lived. Old salts like me come and go, but while you are here make it better for the next person taking your spot. This is something I have experienced both good and bad but looking around the diving community today I see a vast amount of experience. Even with all the issues facing today's divers we still maintain the "let's get it done" attitude. There is no better feeling than watching divers on the job getting it done. It's a sense of pride being a part of a team and watching divers overcome challenges in and out of the water. It's about being in a profession that only a fraction of the world will ever get to experience in life.

If you are a young diver, find that senior diver that you feel has the right stuff and make him your role model. For you senior divers, find that young diver and be a mentor. Everyone should always work the guy above them out of a job. We have a responsibility to train our reliefs and make sure they have the right foot forward. Share the wealth of information we all have; pass on the knowledge we have learned and make today's Navy Diver the most versatile diver they can be. Leadership is the most critical aspect for every Master Diver, every member of the dive team puts their trust in the MDVs, and it is essential to the success and safety of that team. A team who shares great success are directly influenced by successful leadership. That leadership and confidence is something that the team will never forget and that is where the experience of that carry's forward. If you have a goal to achieve you must take the initiative to find the knowledge, gain the experience and with that you will develop the judgement to carry out the operation.

I leave you with pride and keep pushing pride to keep Navy diving at the forefront of excellence. So fair winds and following seas to all as I am at my last Decompression stop and about to come up and over, and hopefully I hit all my "D" stops. I will see you out on the waterfront and I am forever grateful to all of those that have helped me along the way. I will always look forward to rigging fenders to come along side, stay safe out there, and take care of your dive buddy.

HOOYAH DEEP SEA!!

SUPDIVE SENDS ...CAPT(sel) David Scherr

Hooyah Deep Sea! As we close out 2025, I'm reflecting on a year marked by significant change across NAVSEA 00C and the Diving Division. As we discussed above, 00C said farewell to four legendary Division Directors and embraced flexibility and development of Diving policy. While we continue to evolve with new leadership and direction, one constant remains crystal clear: Navy Divers continue to make profound impacts around the world. From innovations in tactics for afloat salvage and emergency UWSH in forward locations, to redefining how Mobile Diving and Salvage forces are generate, to multi-RMC operations in Mayport, and incredible salvage work in the Indo-Pacific...Deep Sea hasn't slowed down.

Further, the CNO's strategic vision, "Built in the Foundry, Tempered in the Fleet, and Forged to Fight", places readiness, modernization, and personnel at the forefront of addressing great power competition. Admiral Caudle recognizes what we've known all along: the relatively small investment in Navy's dive-enabled capabilities deliver outsized operational impact to put our Fleet to sea and enable dominate maneuver in peacetime and in war. The Fleet will increasingly rely on your expertise to sustain our Nation's global maritime posture.

So, what does this heightened attention mean for Navy Diving over the next year? Many initiatives our community has championed are gaining the high-level support and momentum needed to become reality. The OPNAV INST 3150.27 rewrite will begin moving through official coordination channels in the coming months. This revision carries the potential to fundamentally change how we interact with partner nations, opening the aperture for unit commanders to engage, plan, and execute joint diving operations on significantly faster timelines. From an equipment perspective, it creates opportunities to explore commercial diving systems rather than remaining exclusively reliant on legacy certification requirements. This includes potential pathways for commercial underwater breathing apparatus, particularly closed-circuit rebreathers that could expand our operational envelope.

Navy Diver manning remains a top priority for senior leadership, with focused efforts on maximizing how we fill billets at units directly supporting Force generation and Fleet operations. The Navy Diver Rating Optimization study, funded by NAVSEA and sponsored by U.S. Fleet Forces, has issued its report examining specialization tracks for Fleet Divers (UWSH/Expeditionary) and SOF Divers (NSW/USMC). This initiative holds promise for improving proficiency, promotion, and retention in key positions. The next step involves developing COAs for ND specialization, feasibility and integration.

Coming off the tail end of the ABCANZ (FVEY) Military Divers Working Group, our international partnerships have never been stronger, and information sharing continues to yield remarkable results. The Canadian Experimental Diving and Underwater Group's collaboration with our NEDU team on the venous gas emboli study exemplifies the power of allied cooperation in advancing diving science and safety. Similarly, the Royal Navy's recent participation in underwater post-blast analysis training demonstrates how seamlessly we can integrate with partner nations when doctrine and procedures align. The ABCANZ Interoperability Agreement will enable us to dive with Australian, British, Canadian, and New Zealand forces using their diving equipment, dramatically enhancing our coalition warfare capabilities.

Other significant initiatives include working through T-ATS manning and operational concepts, determining how we will deploy aboard the new Navajo-class salvage ships. In 2026, we will see active-duty enabled T-ATS test and evaluation events in preparation for the first vessel to be commissioned late next year. Mobile saturation diving feasibility assessments continue, exploring how we might project this specialized capability forward. The NECC reorganization of EOD and Mobile Diving and Salvage Unit forces will reshape how we organize for expeditionary operations.

The Authorized for Navy Use (ANU) list saw the additions of the 400' FSW EGS Whip, Kirby Morgan Diamond (KM-97) Contaminated Water System, Hydraulics International 300 Bar O2 Booster pump, Analox O2 portable monitor, O2 SDA monitor, and CO2 SDA monitor, the Trepanning cold cutting system for seismic response use, and Coltri HP Air Compressor. The SCUBA regulator Analysis of Alternatives was kicked off, NEDU has tested the Mk-16 PIP, and the JFD Stealth Shadow / Excursion was certified for use.

Finally, we closed this year with a moment of solemn reflection and pride. On December 5th, the community gathered at Admiral Baker Park in San Diego for a ceremony to dedicate a monument at Miramar National Cemetery to honor all U.S. Navy Trained Divers—past, present, and future. The monument stands as a permanent tribute to every diver who has worn the insignia, especially those who made the ultimate sacrifice in service to our Nation.

Wherever you are serving – thank you for carrying the Navy Diving community forward. The challenges ahead are real, but so is our momentum for change. Stay safe and hooyah Deep Sea!

Diving Advisories

25 - 01	LIST OF EFFECTIVE DIVING ADVISORIES
25 - 02	ESSM DIVE DEPOT SERVICES AND WEBSITE UPDATES
25 - 03	REVISED POSEIDON REGULATOR SERVICE MANUAL AND NEW U.S. DISTRIBUTOR FOR POSEIDON DIVING SYSTEMS INC
25 - 04	POSEIDON XSTREAM DEEP (MK3) 1ST STAGE REGULATOR CUP FILTER SAFETY
25 - 05	ESTABLISHMENT OF REENTRY CONTROL MAINTENANCE CONSOLIDATED TEST AND INSPECTION REPORT FORM
25 - 06	EXPANDED GUIDANCE ON POSEIDON XSTREAM DEEP (MK3) 1ST STAGE REGULATOR CUP FILTERS SAFETY BULLETIN
25 - 07	SI TECH SHELL INFLATION VALVE NOTIFICATION OF VOLUNTARY SAFETY RECALL
25 - 08	ADVISORY TEAM MEETING
25 - 09	ENDORSEMENT REQUIREMENT FOR NAVSEA 00C RISK ASSESSMENT REQUESTS
25 - 10	ISSUANCE OF REVISED TECHNICAL MANUAL FOR STANDARD NAVY DOUBLE-LOCK RECOMPRESSION CHAMBER SYSTEM
25 - 11	CONTAINERIZED DIVER LIFE SUPPORT SYSTEMS AND ANCILLARY EQUIPMENT DATA CALL
25-12	KIRBY MORGAN 455 BALANCED REGULATOR SAFETY BULLETIN

For more information on effective diving advisories, go to **https://secure.supsalv.org/home.asp**

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