



# NPS IN THE NEWS

## Weekly Media Report – June 7-June 13, 2022

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### COLLABORATION:

#### [Microsoft Executive Discusses Fifth Domain Competition, Partnerships During NPS Guest Lecture](#)

*(Navy.mil 9 June 22)* ... Mass Communication Specialist 2nd Class Tom Tonthat

*(NPS.edu 9 June 22)* ... Mass Communication Specialist 2nd Class Tom Tonthat

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*(EIN News 7 June 22)*

The award symbolizes Microsoft's shared commitment to the research and development of emerging technologies for national security... The inaugural school was held in 1992 in Monterey, California, in cooperation with the **Naval Postgraduate School**. The program later moved to Santa Fe, New Mexico, with Los Alamos National Laboratory as a supporting institution.

### EDUCATION:

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#### [Acoustics Summer School Program Draws International Scientists, Students to UM](#)

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Josh Gladden, vice chancellor for research and sponsored programs at the University of Mississippi, addresses participants at the 2022 Physical Acoustics Summer School, conducted this week at The Inn at Ole Miss... The inaugural school was held in 1992 in Monterey, California, in cooperation with the **Naval Postgraduate School**. The program later moved to Santa Fe, New Mexico, with Los Alamos National Laboratory as a supporting institution.



## RESEARCH:

### [Ocean Rings' Mystery Stems From Shape of Seafloor](#)

*(Earth Sky 8 June 22) ... Kelly Kizer Whitt*

*(RevYuh 8 June 22) ... Kamal Saini*

*(Tech Explorist 7 June 22) ... Pranjali Mehar*

*(My Droll 7 June 22) ... Hank Wilczek*

*(Verve Times 7 June 22) ... Andrew Shawn*

*(Phys.org 7 June 22)*

#### **Oceans rings and the sandpaper effect**

Oceans cover more than 70% of Earth's surface. But there's much we still don't know about these vast watery stretches of our planet. This month (June 3, 2022), researchers at the **Naval Postgraduate School** in Monterey, California, announced new insights into the mystery of how ocean rings, or eddies – like those seen in this video – stay stable for long periods of time. They said the answer lies in the shape of the seafloor: its topography. That's despite the fact that the average depth of the ocean – from seafloor to surface – is 2.3 miles (3.7 km)!

### [Evaluating Shield as a Cost-Effective Survivability Enhancement for Late-Generations](#)

#### [Aircraft](#)

*(Jasp Online 1 June 22) ... Wen Xiang and Christopher Adams*

When operating in a man-made hostile environment, a fourth-generation fighter aircraft (such as an F-15 Eagle or F-16 Fighting Falcon) would likely be more susceptible to adversarial air-to-air and surface-to-air missile threats when compared against the more modern and stealthier fifth-generation counterparts (such as an F-22 Raptor or F-35 Joint Strike Fighter) [1]. Expendable countermeasures such as chaff and flares are currently deployed to defend the aircraft against such threats. However, the effectiveness of these countermeasures is highly dependent on the aircrew's judgement regarding when to deploy them to achieve the highest probability of survivability and whether the incoming missiles are "smart" enough to distinguish the countermeasures vs. the actual target [2]. Such countermeasures are also limited in quantities—once they are expended, the aircraft would have no other tools to defend itself against incoming threats. Accordingly, against a backdrop of increasingly complex air-to-air missiles, increasingly accurate and lethal air defense capabilities, and ongoing developments in hypersonic missiles, enhanced combat survivability of late-generation fighter aircraft is needed... The concept of aircraft combat survivability, as developed by the **Naval Postgraduate School's** Dr. Robert Ball, revolves around two keywords: susceptibility and vulnerability [2]. In an engagement scenario, the probabilistic kill chain is defined by the susceptibility and the vulnerability probabilities, where susceptibility refers to the inability to avoid threats and is represented by a  $P(\text{Hit})$ —or  $P(H)$ —while vulnerability is defined as the inability for the aircraft to withstand damage inflicted and is represented by  $P(\text{Kill}|\text{Hit})$ —or  $P(K|H)$ .

### [Tracking School Shootings](#)

*(Center for Data Innovation 6 June 22) ... Morgan Stevens*

*(Five Thirty Eight 9 June 22) ... Maggie Koerth*

*(The Advertiser 9 June 22) ... Leigh Guidry*

Researchers at the U.S. **Naval Postgraduate School** have created a dataset tracking every incident since 1970 in which someone brandished or fired a gun at a school or a bullet hit school property. It consists of 2,062 incidents and includes information on the school, the location of the incident, the background of the perpetrators, the ages and injuries of 2,615 victims, the type of gun used, and a summary of the incident.

### [Navy Orders Safety Pause for Aircraft After Deadly California Crashes](#)

*(Spokesman 13 June 22) ... Annabelle Timsit*

The U.S. Naval Air Forces has ordered a one-day "safety pause" for its aircraft after a string of crashes in California this month led to the deaths of a Navy pilot and five Marines... The Marine Corps said Saturday in a news release that it was investigating the fatal crash, which it labeled a "mishap," defined by the **Naval Postgraduate School** as "any unplanned event that results in personal injury or property damage."



## STUDENTS:

### [NPS Student's Analysis of Naval Aviation Wins Foundation/USNI Essay Contest](#)

*(Navy.mil 8 June 22)* ... Mass Communication Specialist 1st Class Nathan K. Serpico

*(NPS.edu 8 June 22)* ... Mass Communication Specialist 1st Class Nathan K. Serpico

Naval Postgraduate School (NPS) student U.S. Navy Ensign Sarah Clark was recently named the winner of the 2022 NPS Foundation/U.S. Naval Institute (USNI) Annual Essay Contest for her piece, "Pilot Identity Crisis," exploring the cultural impact of uncrewed aircraft on Naval aviation. Her essay will be published in the September edition of USNI's "Proceedings," an issue focused on Naval aviation.

### [Learning Opportunity](#)

*(UNM 9 June 22)* ... El Gibson

UNM Prehospital, Austere and Disaster Medicine Program Coordinator Accepted into Selective Emergence Program... In January, Debevec learned he was one of 32 people (from more than 1,000 applicants) accepted into the Center for Homeland Defense and Security Emergence Program through the **Naval Postgraduate School**.

## FACULTY:

### [Dogfight Over the Aegean: Turkish-Greek Relations in Light of Ukraine](#)

*(War on the Rocks 8 June 22)* ... Ryan Gingeras

*(Ahval News 10 June 22)* ... Ryan Gingeras

Mutual hostility is nothing new in Turkish-Greek relations. Acts of provocation, as well as outright conflict, have long beset ties between the two states. However, as the war in Ukraine began, there were some indications that tensions between Ankara and Athens had eased. In the middle of March, Greek Prime Minister Kyriakos Mitsotakis journeyed to Istanbul to meet face-to-face with Turkish President Recep Tayyip Erdogan. The tone of the meeting, according to media reports, was positive and constructive. Both leaders emphasized that the war to the north provided the basis for the visit. In a statement prepared by Erdogan's communications directorate, it was agreed that "Turkey and Greece have a special responsibility in the European security architecture which has changed with Russia's attack on Ukraine." Mitsotakis and Erdogan concurred that it was important for both countries to find avenues of cooperation and "focus on positive agendas" that benefited both nations... Ryan Gingeras is a professor in the Department of National Security Affairs at the **Naval Postgraduate School** and is an expert on Turkish, Balkan, and Middle East history. He is the author of six books, including the forthcoming *The Last Days of the Ottoman Empire* (to be released by Penguin in October 2022). His *Sorrowful Shores: Violence, Ethnicity, and the End of the Ottoman Empire* received short-list distinctions for the Rothschild Book Prize in Nationalism and Ethnic Studies and the British-Kuwait Friendship Society Book Prize. The views expressed here are not those of the Naval Postgraduate School, the U.S. Navy, the Department of Defense, or any part of the U.S. government.

### [January 6th Intelligence Failure Timeline](#)

*(Just Security 7 June 22)* ... Erik Dahl

This timeline presents a detailed listing of intelligence reports and other warnings that were available prior to the attack on the Capitol of January 6, 2021. Because this timeline is based solely on public, open-source information, it cannot be considered complete, but I believe it is the most comprehensive such list publicly available... Erik Dahl (@ErikJDahl1) is associate professor of national security affairs at the **Naval Postgraduate School** in Monterey, California, and the author of *Intelligence and Surprise Attack: Failure and Success from Pearl Harbor to 9/11 and Beyond* (Georgetown University Press, 2013). His latest book is *The COVID-19 Intelligence Failure: Why Warning Was Not Enough* (forthcoming with Georgetown University Press). He is also a former chair of the Intelligence Studies Section of the International Studies Association, and prior to his academic career he served 21 years as an intelligence officer in the U.S. Navy.



## [Maritime Strategy and Naval Power in the 21st Century – Disassembling the Rubik’s Cube](#)

*(T and F Online 3 May 22)* ... James A. Russell, Associate Professor

A year after the Eisenhower Administration came into office, Secretary of State John Foster Dulles announced that the United States intended to protect its allies and indirectly project military power through, as Dulles called it, the “deterrent of massive military power.” Dulles’s speech to Council of Foreign Relations on 12 January 1954 is seen as the dawn of the era of what became known as “massive retaliation,” which sought to apply America’s nuclear arsenal as a political and military instrument to serve the nation’s strategic interests around the globe.

## [Why Martell left Lyft for Pentagon’s top AI job](#)

*(c4irsnet 7 June 22)* ... Colin Demarest

The Pentagon’s new chief digital and artificial intelligence officer said the gravity of the situation and the need to get things right motivated him to leave ride-hailing company Lyft Inc. for government work... At Lyft, Martell was a head of LyftML, the company’s machine-learning division, for just over two years. He also worked at Dropbox and LinkedIn and was a tenured computer science professor at the **Naval Postgraduate School**. Unlike other CDAO leaders, he has no previous Pentagon experience.

## **ALUMNI:**

### [President Preckwinkle Appoints New Executive Director for County’s Department of Emergency Management and Regional Security](#)

*(Cook County 7 June 22)*

Cook County Board President Toni Preckwinkle announced today the appointment of Theodore “Ted” Berger as executive director of the County’s Department of Emergency Management and Regional Security (EMRS)... Berger holds a Master of Arts in Security Studies from the **Naval Postgraduate School** and Bachelor of Arts in Political Science with a minor in Speech Communication from Bradley University.

### [Retired U.S. Navy Vice Admiral Michael Franken Wins Iowa Democratic U.S. Senate Nomination](#)

*(Blasting News 8 June 22)* ... Samantha Spencer

Michael Franken served in the United States Navy for four decades. He ultimately retired with the rank of vice admiral. Throughout his career, he received some of the highest decorations given by the U.S. military, including the Defense Distinguished Service Medal and the Navy Distinguished Service Medal... Michael Franken is a native of Sioux Center in northwestern Iowa. He would attend what is now Morningside University in nearby Sioux City, followed by the University of Nebraska. Franken later received further education from several other schools. Including the **Naval Postgraduate School**, MIT, and the University of Virginia.

### [Cmdr. Sibley Passes the Torch to Cmdr. Teague at NAS Meridian](#)

*(The Meridian Star 10 June 22)* ... D’Courtland Christian

Commander Christy Sibley was humbled as she handed over command of Naval Technical Training Center at Naval Air Station Meridian to Commander Karen J. Teague during a ceremony at the Navy Reserve Center Friday... She earned a Master of Science in Operations Research at the **Naval Postgraduate School**, Monterey, California, completed JPME Level I, and a Foundations of Executive Leadership certificate from Washington University, St. Louis, Missouri.

### [Names in the News: June 12, 2022](#)

*(Fire Engineering 12 June 22)*

Brian Sturdivant was sworn in as the new chief of the Lansing (MI) Fire Department (LFD) on June 8. Sturdivant is a 30-plus-year fire service veteran. He became chief of the Battle Creek (MI) Fire Department in September 2018 and has also served as the chief/emergency manager in Milpitas, California; an executive deputy chief/emergency management coordinator in Petersburg, Virginia; a deputy chief in Scottsdale, Arizona; and a battalion/division chief in Atlanta, Georgia. Sturdivant graduated from the **Naval Postgraduate School** with a master’s degree in homeland defense and security and earned the Chief Fire Officer designation from the Center for Public Safety Excellence.



## **UPCOMING NEWS & EVENTS:**

**June 17:** [Spring Graduation Ceremony](#)

**June 19:** Juneteenth (Federal Holiday Observed June 20)

**June 26:** [Strategic Communication Workshop](#)

**July 4:** Independence Day (Federal Holiday)



## COLLABORATION:

### Microsoft Executive Discusses Fifth Domain Competition, Partnerships During NPS Guest Lecture

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*(NPS.edu 9 June 22) ... Mass Communication Specialist 2nd Class Tom Tonthat*

Jason Zander, executive vice president of Strategic Missions and Technologies at Microsoft, spoke to Naval Postgraduate School (NPS) students, faculty and staff about cyberspace, the fifth domain in Strategic Competition, and the challenges in keeping up with this rapidly developing front during NPS' latest Secretary of the Navy Guest Lecture (SGL), June 6.

Held inside King Auditorium and broadcast live online, Zander discussed critical issues in cyberspace and the role of public-private partnerships during an informal one-on-one discussion with NPS President retired Vice Adm. Ann E. Rondeau. She opened the dialogue by asking about change, and how Zander and Microsoft approached this challenge over the years.

"As a company, Microsoft went through a lot of cultural transformation from how we compete to how we build and ship software, and I think it's actually relevant to cyberspace as well," Zander said. "We've been successful for the past couple of decades. Yet the whole world changed around us, from adoption of newer technology, and a faster moving pace.

"We had to make a lot of changes to not only survive but also thrive in that environment," he continued. "We're very excited about that and the opportunity everybody has. I think we'll find a lot of similarities when I talk to my peers across defense departments."

Zander and Rondeau then transitioned the discussion to a focus on national and global security, and how adversaries can use cyberwarfare, targeting commercial entities in their efforts to exploit vulnerabilities in a country's infrastructure.

"How do we find and remediate as quickly as possible to make sure people can't get through our defenses using ransomware and the like?" asked Zander. "I shudder to think what would happen if people went after critical infrastructure and shut down, say, the United States power grid."

Rondeau acknowledged similarities in the security concerns among private and public sectors, such as speed and the urgency of change, among others that have come to the forefront in recent months due to the conflict in Eastern Europe.

"One thing that was super interesting to [Microsoft] was as the lead-up to the war in Ukraine kicked off, we started detecting massive cyber-attacks coming from Russian state actors," said Zander. "The most interesting thing to us was seeing the correlation between those cyber-attacks and kinetic actions being taken in the actual war."

Witnessing this direct correlation between cyber attacks using commercial infrastructure, and concurrent military operations, demonstrated the need for his company to work with the military to develop mutually-beneficial solutions.

"We never expected to be in a position as a commercial software company to see that. It just shows you how intrinsically woven these things are," Zander said. "Imagine securing our critical infrastructure like borders, water, and all the other things you need as a sovereign country. There are folks out there that are thinking every single day how to go after that stuff, building their offensive capabilities. That's something we have to keep up with and we'll have to partner together on that."

Under the recently announced Cooperative Research and Development Agreement (CRADA) between Microsoft and NPS, both organizations aim to share their knowledge and resources, developing ways to keep up with the rapidly increasing pace of adoption of new technologies, and this supports the warfighter and national security.

"With this CRADA, we're looking at different ways of knowledge acquisition, knowledge use, and applications of knowledge and research for problem solving," said Rondeau. "It's our first step to really changing up how we process knowledge and skills and apply them immediately to the problems that are in front of us and anybody that we serve."



Zander explained the value of collaborating with NPS' operationally-experienced students and defense-focused faculty for insight.

"We're excited about the innovation," he said. "From our perspective, we get a lot of raw tech that we think makes sense, but we want to get the feedback. Does it make sense and what could we be doing differently with that?"

"I think the commercial sector has been growing at warp speed in some of these areas," he continued. "In some places, you're going to come up against that technology. But if there's a good way for us to be able to take that technology, bind it to the mission, get feedback and make the platform better ... We're excited about that, and if it helps their mission, then that's going to be a win-win."

Following their discussion, Zander and Rondeau fielded questions from NPS students in the audience. One student asked how Microsoft's drive for change and ability to innovate with speed could be taught to the DOD to keep pace with emerging technology such as cyberwarfare.

"I think that awareness and understanding of these partnerships are a big thing," Zander responded.

"But how do we actually bring down the friction [between innovation and bureaucracy] in a responsible way?," he posed. "I think the real question is, are we really exploring the art of the possible deep enough and quick enough? When we do, we will figure out how to innovate responsibly, and how to do it in a fair and competitive way going forward."

For more information about the NPS Secretary of the Navy Guest Lecture program, and to watch past lectures, visit the NPS SGL website.

[Microsoft Executive Discusses Fifth Domain Competition, Partnerships During NPS Guest Lecture > United States Navy > News-Stories](#)

[Microsoft Executive Discusses Fifth Domain Competition, Partnerships During NPS Guest Lecture - Naval Postgraduate School](#)

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## Naval Postgraduate School Foundation Names Microsoft as 2022 Corporate Partner of the Year

*(EIN News 7 June 22)*

The award symbolizes Microsoft's shared commitment to the research and development of emerging technologies for national security.

Microsoft and the Naval Postgraduate School share a commitment to accelerating research and development of advanced cloud technologies to support the mission of the U.S. Navy and Marine Corps."

— Jason Zander, Executive Vice President of Microsoft

The Naval Postgraduate School Foundation presented Microsoft with the 2022 Corporate Partner of the Year Award during the annual America's Heroes Charity Golf Tournament dinner, here, June 6.

In its second year, the award recognizes a corporate partner that demonstrates continued innovation and support of education, research, and applied solutions that emerge from the Naval Postgraduate School and drive world-changing advancements for defense, industry, technology, climate and more — right now and into the future.

"The recently announced collaboration between the Naval Postgraduate School's operationally experienced students and expert faculty and Microsoft's team of technology experts will have immense impact on national security," said Rich Patterson, NPS Foundation President. "This award recognizes Microsoft's investment in the people, research and facilities at the Naval Postgraduate School and their shared interest in delivering rapid capabilities for the Fleet and Force."

In May 2022, Microsoft and NPS announced a Cooperative Research and Development Agreement (CRADA) to explore highly complex issues associated with rapidly integrating and adopting new technologies in support of naval warfighting and national security.

"Microsoft and the Naval Postgraduate School share a commitment to accelerating research and development of advanced cloud technologies to support the mission of the U.S. Navy and Marine Corps,"



said Jason Zander, Executive Vice President of Microsoft. “We are honored to be recognized as the Naval Postgraduate School Foundation’s Corporate Partner of the Year and look forward to continued collaboration in the years to come.”

The Naval Postgraduate School Foundation is supporting the newly established NPS-Microsoft agreement by developing a collaborative research tool, Project Athena, that began as a student project and early prototype. With support from the NPS Foundation, Athena is poised to be one of the first efforts to be scaled under the Cooperative Research Initiative. As the cornerstone of the Campus of the Future project, Athena will enable students, faculty, research and development partners, and DOD sponsors to work together as a team to solve the hardest and highest priority challenges facing our nation.

In addition to Campus of the Future and Project Athena, the CRADA supports a development effort to bring Gaming, Exercising, Modeling, and Simulation (GEMS) into the 21st Century, leading with the Project Voltron prototype later this year. Voltron integrates existing digital technologies that are already in DOD’s inventory and addresses key analog wargaming challenges.

NPS produces critical research output and the leaders with diverse perspectives and collaborative ideas to drive America’s competitive advantage. As a partner in NPS’ mission, the Naval Postgraduate School Foundation is at the intersect of academia, defense and industry to address challenges and identify opportunities that transform ideas from some of our nation’s brightest into scalable solutions for the Department of Defense, Department of Homeland Security, and our allies.

The Collaborative Research and Development Agreement (CRADA) does not constitute endorsement of Microsoft or its products and services by the Naval Postgraduate School, the Department of the Navy, or the Department of Defense.

The Naval Postgraduate School Foundation is a non-federal entity. It is not part of the DOD or any of its components and has no governmental status.

[Naval Postgraduate School Foundation names Microsoft as 2022 Corporate Partner of the Year - EIN Presswire \(einnews.com\)](#)

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## EDUCATION:

### Marines to Embed at Army Software Factory

*(Fed Scoop 10 June 22)* ... Jon Harper

The Marine Corps plans to send some of its tech savvy troops to the Army’s Software Factory in Austin, Texas, to hone their coding skills.

The move is part of the Corps’ plan to develop a more “AI aware workforce,” according to Brig. Gen. Joseph Matos, director of information, command, control, communications and computers (IC4).

The software factory, located near Army Futures Command headquarters, was stood up last year in one of the nation’s top technology hubs to help the Army train and build up its organic software talent. Unlike some of the U.S. military’s other software factories, it is primarily soldier led.

The organization has “done a great job developing a coding capability,” Matos said this week at the Pentagon’s annual Digital and AI Symposium.

“We are now partnering with them. We’re on the very cusp of doing a joint venture with them where we embed,” he said. “Up to about 36 Marines a year will go through that process, stay down there for a couple years after they finish the training, developing coding” tools.

Meanwhile, the Corps is sending personnel to the **Naval Postgraduate School** (NPS) where they are taking courses in operations research and other areas of study that could help the service integrate AI across its enterprise.

“As we develop algorithms and develop the coding capabilities within Python or whatever, those Marines [that go through the Army Software Factory] become kind of the seed corn who help ... the



graduates out of the NPS to really implement this” vision for expanding the use of artificial intelligence, Matos said.

The software factory is a pilot program that’s going to run at least five years, Assistant Secretary of the Army for Acquisition, Logistics and Technology Douglas Bush told reporters in February.

“The cadres moving through there are learning some very valuable skills about how to do software,” he said. “I’m excited at the potential, for example, to have more people in my [program executive offices] who know about software and how to write it — helping advise the people trying to buy it. I’m all for that ... I’m optimistic that it could be a way for us to spread more talent across the Army in many places — my area of the Army, but also others.”

[Marines to embed at Army Software Factory - FedScoop](#)

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## **Acoustics Summer School Program Draws International Scientists, Students to UM**

*(D Journal 10 June 22)* ... Edwin B. Smith

Josh Gladden, vice chancellor for research and sponsored programs at the University of Mississippi, addresses participants at the 2022 Physical Acoustics Summer School, conducted this week at The Inn at Ole Miss.

Graduate and postgraduate students from four countries traveled to the University of Mississippi campus this week to learn the latest in cutting-edge physical acoustics, including infrasound, medical acoustics, thermoacoustics, nonlinear acoustics, waves and bubbles.

Physical Acoustics Summer School 2022 is hosted by the university's National Center for Physical Acoustics, with support from the University of Texas and the Acoustical Society of America. The sessions began Sunday, June 5, and ran through Friday, June 10, at The Inn at Ole Miss.

This year's edition of PASS included 35 students from the United Kingdom, Russia, Netherlands and United States, who participated in an intense series of lectures highlighting important topical research. The week also included plenty of time for more informal conversations ranging from highly technical to career paths.

"The Physical Acoustics Summer School has a rich history of over 30 years of convening talented graduate students from multiple countries for a week to learn advanced concepts in the physics of acoustics and applications from world-renowned experts," said Josh Gladden, UM vice chancellor of research and sponsored programs, professor of physics and director for PASS 2022. "PASS graduates have gone on to accomplish highly impactful research and reach leadership positions in academia, government and industry. The University of Mississippi, home of the National Center for Physical Acoustics, is proud to host PASS for the third time."

Acoustics has wide application areas, including biomedical ultrasound, jet noise reduction, novel materials, weather hazards and atmospheric science, Gladden said.

Participants said the sessions help them as they aim for careers in the field.

"I was inspired to come to PASS after hearing how fun and educational, at the same time, it can be," said Ekaterina "Katie" Ponomarchuk, a graduate student from Lomonosov Moscow State University in Russia, during this week's program. "It's also a chance for me to immerse myself into American culture and get to know my peers in acoustics from different universities."

Cameron A. McCormick, a postdoctoral appointee at Pennsylvania State University, said he came to PASS to learn about topics that aren't in his program or that he didn't have time to take.

"There aren't many opportunities like PASS available to young acousticians," he said. "A big part of it is also hanging out with researchers and fellow acoustics students from all over in a low-key environment where we're all on the same level."

The inaugural school was held in 1992 in Monterey, California, in cooperation with the **Naval Postgraduate School**. The program later moved to Santa Fe, New Mexico, with Los Alamos National Laboratory as a supporting institution.



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## RESEARCH:

### **Ocean Rings' Mystery Stems From Shape of Seafloor**

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#### **Oceans rings and the sandpaper effect**

Oceans cover more than 70% of Earth's surface. But there's much we still don't know about these vast watery stretches of our planet. This month (June 3, 2022), researchers at the **Naval Postgraduate School** in Monterey, California, announced new insights into the mystery of how ocean rings, or eddies – like those seen in this video – stay stable for long periods of time. They said the answer lies in the shape of the seafloor: its topography. That's despite the fact that the average depth of the ocean – from seafloor to surface – is 2.3 miles (3.7 km)!

The researchers – doctoral student Larry Gulliver and professor Timour Radko – said small-scale texture on the seafloor slows down deep ocean currents, improving the stability and longevity of the eddies all the way at the surface. They call this the sandpaper effect. Just as small abrasive particles can grind down larger objects – like sandpaper does on a block of wood – so can these small features on the ocean floor affect portions of the vast ocean above it.

Their discovery, published March 9, 2022, landed them on the cover of the March 2022 issue of the peer-reviewed journal *Geophysical Research Letters*. This was Gulliver's first paper as a lead author. Radko said of Gulliver that he did it:

... on his first try. It's like getting on the cover of *Rolling Stone* ... You're a rockstar.

#### **What are ocean rings?**

Ocean rings, or eddies, are circular swirls of currents that can be a couple of miles or kilometers wide. These rings can persist in the same location from months to years. Ocean rings are vital for transporting heat and nutrients throughout the ocean. These circular features can create their own weather, generate wave patterns and even impact acoustics.

While scientists have long searched for how large vortices can be stable for long periods, previous searches disregarded ocean floor topography because they thought it was too far away to make a difference. Theoreticians don't look at topography when considering activity on the ocean's surface. Radko said this new finding has him questioning everything:

If this small-scale topography affects this vortex, it may affect currents, waves, and what not. I'm becoming skeptical of everything that assumes the bottom is smooth.

#### **Piggy-backing on previous ocean ring research**

With an assumption of a smooth seafloor, the physics suggests that ocean rings should dissipate after a few weeks. Old studies on ocean rings didn't account for the sandpaper effect. Radko and Gulliver made their model as accurate to the topography as possible. Using data from echo-sounding, or sonar systems, they made their model represent a rough bottom that mathematically represents an average seafloor. Gulliver said:

We borrowed this, borrowed that, borrowed the other idea, put it together and it worked! It was pretty quick, [but] I had to run a few more simulations to make sure.

“Pretty quick” in researcher-speak equaled about four years of studying, modeling and collaboration. Their discovery will help other researchers and the Navy’s meteorology and oceanography community provide critical information to others. Radko is planning to look at how the Navy’s Hybrid Coordinate Ocean Model represents eddies. He hopes their new discovery helps improve the accuracy of the model. As Radko said:

Let’s get to the bottom of it.

[EarthSky | Ocean rings’ mystery stems from shape of seafloor](#)

[Scientists Have Finally Figured Out What Makes Eddies Stable - New Research \(revyuh.com\)](#)

[Study unravels the stability mystery of ocean rings - Tech Explorist](#)

[Researchers unravel the stability mystery of ocean rings - My Droll](#)

[Researchers unravel the stability mystery of ocean rings - Verve times](#)

[Researchers unravel the stability mystery of ocean rings \(phys.org\)](#)

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## **Evaluating Shield as a Cost-Effective Survivability Enhancement for Late-Generations Aircraft**

*(Jasp Online 1 June 22) ... Wen Xiang and Christopher Adams*

When operating in a man-made hostile environment, a fourth-generation fighter aircraft (such as an F-15 Eagle or F-16 Fighting Falcon) would likely be more susceptible to adversarial air-to-air and surface-to-air missile threats when compared against the more modern and stealthier fifth-generation counterparts (such as an F-22 Raptor or F-35 Joint Strike Fighter) [1]. Expendable countermeasures such as chaff and flares are currently deployed to defend the aircraft against such threats. However, the effectiveness of these countermeasures is highly dependent on the aircrew’s judgement regarding when to deploy them to achieve the highest probability of survivability and whether the incoming missiles are “smart” enough to distinguish the countermeasures vs. the actual target [2]. Such countermeasures are also limited in quantities—once they are expended, the aircraft would have no other tools to defend itself against incoming threats. Accordingly, against a backdrop of increasingly complex air-to-air missiles, increasingly accurate and lethal air defense capabilities, and ongoing developments in hypersonic missiles, enhanced combat survivability of late-generation fighter aircraft is needed.

This article presents a fundamental evaluation of enhancement to a fourth- and fifth-generation fighter aircraft’s combat survivability through the deployment of a tactical airborne laser system—such as the Self-Protect High Energy Laser Demonstrator (SHiELD)—as a survivability enhancement feature (SEF). A system-level study applying the concepts of aircraft combat survivability to a notional combat scenario was designed and modelled using Monte Carlo simulations to analyze the enhancement to combat survivability. Subsequently, a cost effectiveness analysis of the tactical airborne laser pod was performed to understand whether its deployment on the current and next-generation fighter aircraft might make it a worthwhile, cost-effective aircraft combat SEF in the future.

[Authors’ Note: The names of specific fighter platforms in this article are included for illustrative purposes only and do not reflect actual platform-specific test/analysis data. In addition, the potential system characteristics described herein are taken from information available in open literature, and the modeling and simulation of systems are for conceptual analysis only.]

### **SHiELD: A NEW LIGHT IN THE FIGHT**

The Air Force Research Laboratory—in collaboration with Lockheed Martin, Northrup Grumman, and Boeing—has developed the SHiELD tactical airborne laser pod to be installed on fighter aircraft and potentially defeat incoming surface-to-air and air-to-air missile threats [3]. With SHiELD’s wide field of regard, it can “see” incoming threats, maintain direct line of sight, and direct its laser beam to engage



threats without needing the pilot to execute evasive maneuvers. The system's beam control and turret were also designed to compensate for the turbulent effects of transonic flight regime. In addition, the host aircraft can recharge SHiELD's battery without the need to replace its entire power generation system [4].

As a pod-mounted weapon system, SHiELD would be compatible with many fighter aircraft platforms, including fourth- and fifth-generation platforms. Lockheed has conducted a significant number of flight tests and hopes to improve the power output of directed energy systems in the coming years [5, 6]. It should be noted, however, that adding an external pod to a fifth-generation fighter could significantly increase the radar signature to an unacceptable level depending on the threats encountered on the mission.

SHiELD comprises three key subsystems: (1) the Laser Advancements for Next-generation Compact Environments (LANCE) high-energy laser (HEL), an electrically powered fiber laser by Lockheed Martin; (2) the SHiELD Turret Research in Aero Effects (STRAFE) beam control subsystem by Northrop Grumman; and (3) the Laser Pod Research and Development (LPRD) subsystem for the external aircraft pod, from which the HEL would be powered and cooled, by Boeing [7, 8].

By early 2021, SHiELD's key subsystems had achieved significant project milestones. The Air Force successfully flew test flights using an F-15 mounted with Boeing's test pod and shot down air-launched missiles from a ground-based version of the LANCE HEL [9].

## MODELING AIRCRAFT COMBAT SURVIVABILITY

The concept of aircraft combat survivability, as developed by the **Naval Postgraduate School's** Dr. Robert Ball, revolves around two keywords: susceptibility and vulnerability [2]. In an engagement scenario, the probabilistic kill chain is defined by the susceptibility and the vulnerability probabilities, where susceptibility refers to the inability to avoid threats and is represented by a  $P(\text{Hit})$ —or  $P(H)$ —while vulnerability is defined as the inability for the aircraft to withstand damage inflicted and is represented by  $P(\text{Kill}|\text{Hit})$ —or  $P(K|H)$ .

As shown in Figure 1, susceptibility has been described by the probabilities of the first five phases of the engagement scenario, as seen from the perspective of the enemy's air defense system. These phases include:

1.  $P(\text{Active})$ —or  $P(A)$ ;
2.  $P(\text{Detect}|\text{Active})$ —or  $P(D|A)$ ;
3.  $P(\text{Launch}|\text{Detect})$ —or  $P(L|D)$ ;
4.  $P(\text{Intercept}|\text{Launch})$ —or  $P(I|L)$ ;
5.  $P(\text{Hit}|\text{Intercept})$ —or  $P(H|I)$ .

## ENGAGEMENT SCENARIOS

Two sets of single-shot one-on-one engagement scenarios were modeled for a fourth-generation fighter (such as the F-16) and a fifth-generation fighter (such as the F-35) to be individually engaged by a notional foreign surface-to-air missile system. In the first scenario, the fourth- and fifth-generation fighters were equipped with their respective baseline SEFs, such as an electronic countermeasure suite. However, in the second scenario, the fighters were additionally equipped with the SHiELD pod on their centerline station. During the engagement, each fighter aircraft was modeled to fly individually through an area of operations defended by the notional missile system. A total of 100,000 Monte Carlo simulation runs were performed to calculate the probabilistic outcomes and evaluate the enhancement in probability of survival  $P(S)$  for a SHiELD-equipped fighter aircraft vs. a baseline aircraft.

[Authors' Note: Other than estimated cost, the numbers shown or derived in this article are notional and not representative of any specific system or aircraft, as the intent of this article is simply to provoke discussion on the cost benefit of certain SEFs to combat effectiveness.]

Due to atmospheric attenuation, we could expect SHiELD's laser beam to have greater effect on the incoming missile during its mid-course intercept phase compared to its initial launch phase. As such, for engagement scenarios involving SHiELD-equipped fighter aircraft, the  $P(I|L)$  and  $P(H|I)$  values were arbitrarily reduced by mean values of 20% and 50%, respectively, with a 5% standard deviation. For



example, as shown in the “Final Percent Reduction” column of Table 1, the P(I|L) was reduced by 17% while the P(H|I) was reduced by 48% in one of the simulations. A standard deviation value of 5% was arbitrarily chosen to represent the differences in the SHiELD pod’s effectiveness due to various factors, such as manufacturing tolerances.

The input parameters used in the Monte Carlo modeling of the single-shot one-on-one engagement scenario for the fourth-generation fighter vs. the notional missile system are shown in Table 2. The parameters were adapted from Kim et al. [11], which attempted to evaluate the susceptibility of a representative fighter aircraft against a surface-to-air missile threat using the Analytic Hierarchy Process’s (AHP) weighted score algorithm. (Once again, these parameters do not reflect actual test data values and instead serve simply to provide an illustration of the model for readers to better understand.) Also, while external carriage of SHiELD pods on the aircraft will adversely affect the P(D|A) and P(L|D), these effects were largely ignored in the model so as to reduce the variables and instead focus solely on the enhancements to survivability due to the SHiELD pods.

For the fifth-generation fighter vs. missile system engagements, the input parameters are as shown in Table 3. As the notional fifth-generation fighter was designed with stealth capabilities and has a significantly reduced radar cross section compared to the fourth-generation fighter, the input parameters for the baseline fifth-generation fighter vs. missile system were arbitrarily determined by assuming that the fifth-generation fighter P(D|A) was 30% lesser than that of the fourth-generation fighter. Similarly, the conditional probabilities P(L|D), P(I|L), and P(H|I) were arbitrarily reduced by 15% when compared to the fourth-generation fighter, as it was assumed that once the fifth-generation fighter was detected and a launch solution calculated, the remaining probabilities of intercept from the engagement would change slightly.

Table 4 shows the results from the Monte Carlo simulations. Note that the average P(S) for the baseline fourth-generation fighter is 0.796, while the SHiELD-equipped fourth-generation fighter yielded significantly better average P(S), at 0.918, which represents a 12.2% survivability enhancement, as shown in Figure 2. For the fifth-generation fighter, the baseline aircraft has an average P(S) of 0.912, and the SHiELD-equipped fifth-generation fighter is 0.965. The fifth-generation fighter, being a stealthier aircraft, already has high P(S) even for its baseline configuration, and SHiELD only marginally enhanced its survivability by 5.3%, as shown in Figure 3. Note also that the SHiELD-equipped fourth-generation fighter was marginally more survivable than the baseline fifth-generation fighter.

Furthermore, when the single-shot one-on-one engagements were extended to 10 engagements, it became clear that as the number of engagements increases, the P(S) decreases. The results from the engagements are shown in Table 5.

For a typical fighter squadron with 24 aircraft, the P(S) values obtained meant that only  $0.109 \times 24 \approx 2$  baseline fourth-generation fighters would be expected to survive 10 engagements with the missile system. In contrast,  $0.434 \times 24 \approx 10$  SHiELD-equipped fourth-generation fighters would be expected to survive after the 10 engagements. In that regard, it is evident that the 12.2% susceptibility reduction—or enhancement in P(S)—has a significant impact on the aircraft availability.

For the fifth-generation fighter, the survivability results were considerably better than the fourth-generation fighter, as would be expected for the latest-generation fighter aircraft. The baseline fifth-generation fighter was expected to have  $0.405 \times 24 \approx 9$  aircraft surviving after 10 engagements. In contrast, the SHiELD-equipped fifth-generation fighter was expected to have  $0.702 \times 24 \approx 16$  aircraft surviving after 10 engagements due to the 5.3% enhancement in P(S).

## **COST-EFFECTIVENESS OF SHIELD FOR FOURTH- VS. FIFTH-GENERATION FIGHTERS**

Table 6 shows the cost of replacing fighter aircraft when encountering multiple one-on-one engagements with the missile system. Assuming each SHiELD pod costs \$2 million (in U.S. dollars), a simple estimation for the total acquisition cost of equipping a squadron of 24 fighter aircraft would be \$48 million (using the F-16 as an example). In terms of aircraft, each F-16 costs approximately \$30 million, while the conventional F-35A variant costs approximately \$80 million, and the short takeoff and vertical landing (STOVL) F-35B variant costs approximately \$115 million [12–14].



Based on the model's assumptions, SHiELD-equipped fighter aircraft achieved significant total cost savings when compared against their baseline configuration. This savings is because the replacement cost for each fighter aircraft was much higher compared to the price of a SHiELD pod.

Now if we use cost figures for some current fighters (such as the F-16, F-35A, and F-35B) as stand-ins for the cost of the notional fourth- and fifth-generation fighters and then apply the output data from the preceding model, we can get a rough idea of the cost benefit of SHiELD. For example, the total cost of replacing 22 attritted baseline F-16's after 10 engagements would be \$660 million, but it costs only \$496 million to replace 14 SHiELD-equipped F-16's. This fact translates to a cost savings of \$164 million due to SHiELD. The highest cost savings applying the notional survivability model was achieved when comparing baseline F-35B's against SHiELD-equipped F-35B's after 10 engagements, at \$741 million. Overall, it thus appears more cost-effective to equip these expensive fighter aircraft with SHiELD.

A sensitivity analysis for the cost price of the SHiELD pod and the total cost savings for the fighter aircraft types after 10 engagements was also performed, and the results are given in Table 7. The analysis showed that when the SHiELD pod was priced at \$7 million per unit, it incurred a loss of \$26 million between the baseline F-16 and the SHiELD-equipped F-16. Thus, it would be more cost-effective not to equip the SHiELD pods on the F-16. However, due to the significantly higher price tag of an F-35, it was still more cost-effective to equip them with SHiELD. For the F-35A and F-35B, the decision-making would only lean toward not equipping them if a SHiELD pod was to cost \$18 million and \$26 million, respectively, in 10 engagements.

## CONCLUSIONS

Based on the modeling, assumptions, and evaluations presented herein, the subject fourth- and fifth-generation fighter aircraft equipped with the SHiELD system have been shown to achieve better combat survivability than equivalent baseline fighter aircraft. In addition, a fully effective SHiELD-equipped fourth-generation fighter could achieve similar survivability to a baseline fifth-generation fighter. Finally, from a cost-effectiveness perspective, the deciding factor on whether to equip fighter squadrons with the SHiELD pod will ultimately depend on factors such as the cost of the SHiELD pod and its true capabilities.

## ABOUT THE AUTHORS

Military Expert 5 (ME5) Wen Xiang Ong has been an Airforce Engineer with the Republic of Singapore Airforce (RSAF) since 2011 and is currently serving as the Depot Commander of 5 Ammunition Depot, Singapore Armed Forces Ammunition Command. He has held various appointments related to maintenance of weapon and armament systems for the F-15SG and F-16 fighter aircraft, including serving as Officer Commanding of the Aircraft Weapon Operations Flight in 805 SQN, Air Power Generation Command. ME5 Ong holds a bachelor's degree and a master's degree in mechanical engineering from the Nanyang Technological University and the **Naval Postgraduate School (NPS)**, respectively, and was most recently conferred a master's degree in defense technology and systems from the National University of Singapore.

Mr. Christopher Adams is a Senior Lecturer at the **Naval Postgraduate School (NPS)** Department of Mechanical and Astronautical Engineering and is a former Associate Dean of NPS's Graduate School of Engineering and Applied Sciences. A retired Navy Commander and aviator with multiple tours in Iraq and Afghanistan, he is a widely recognized subject-matter expert and educator on combat survivability. Mr. Adams holds a bachelor's degree and master's degree in aerospace engineering from Boston University and NPS, respectively.

[Evaluating SHiELD as a Cost-Effective Survivability Enhancement for Late-Generation Aircraft - Joint Aircraft Survivability Program - JASP Online \(jasp-online.org\)](#)

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## Tracking School Shootings

*(Center for Data Innovation 6 June 22) ... Morgan Stevens*

*(Five Thirty Eight 9 June 22) ... Maggie Koerth*

*(The Advertiser 9 June 22) ... Leigh Guidry*

*(The Dispatch 10 June 22) ... Megan Henry*

Researchers at the U.S. **Naval Postgraduate School** have created a dataset tracking every incident since 1970 in which someone brandished or fired a gun at a school or a bullet hit school property. It consists of 2,062 incidents and includes information on the school, the location of the incident, the background of the perpetrators, the ages and injuries of 2,615 victims, the type of gun used, and a summary of the incident.

[Tracking School Shootings – Center for Data Innovation](#)

[Mass Shootings Can Traumatize People Who Weren't Even There | FiveThirtyEight](#)

[Lafayette Police teaching children how to survive school shootings \(theadvertiser.com\)](#)

[How do Columbus-area school district do active shooter training? \(dispatch.com\)](#)

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## Navy Orders Safety Pause for Aircraft After Deadly California Crashes

*(Spokesman 13 June 22) ... Annabelle Timsit*

The U.S. Naval Air Forces has ordered a one-day “safety pause” for its aircraft after a string of crashes in California this month led to the deaths of a Navy pilot and five Marines.

The pause will come into effect Monday and affect all Navy aviation units that are not deployed, the Naval Air Forces said Saturday in a news release.

“As a result of recent crashes involving U.S. Navy and Marine Corps aircraft, Commander, Naval Air Forces has directed all non-deployed Navy aviation units to conduct a safety pause on June 13 in order to review risk-management practices and conduct training on threat and error-management processes,” it said.

Deployed units will do the same as soon as possible, it added.

“In order to maintain the readiness of our force, we must ensure the safety of our people remains one of our top priorities,” Cmdr. Zachary Harrell, public affairs officer for the Naval Air Forces, told the Los Angeles Times.

A Navy pilot was killed on June 3 when the fighter jet he was flying as part of a routine training mission crashed in a remote, unpopulated area of the Mojave Desert in Southern California, the Navy said.

The incident was being investigated as of June 5, it added.

On Wednesday, an MV-22B Osprey aircraft conducting routine flight training crashed near Glamis, Calif., just north of the Mexican border, killing all five Marines onboard, the Marine Corps said.

The service members ranged in age from 19 to 33.

The Marine Corps said Saturday in a news release that it was investigating the fatal crash, which it labeled a “mishap,” defined by the **Naval Postgraduate School** as “any unplanned event that results in personal injury or property damage.”

And on Thursday, a Navy helicopter – an MH-60S Seahawk – that was carrying four crew members “crashed near El Centro, Calif. while conducting a routine training flight,” the Naval Air Forces said.

All those onboard survived, but one crew member was injured and taken to a hospital. The Navy said it was investigating the incident.

The Washington Post reported that the safety record of the MV-22B Osprey has come under renewed scrutiny after four Marines were killed in March while onboard one that crashed during a NATO training exercise in Norway.

More than 40 people have died flying on Ospreys since 1991, the Post reported.

[Navy orders safety pause for aircraft after deadly California crashes | The Spokesman-Review](#)

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## STUDENTS:

### NPS Student's Analysis of Naval Aviation Wins Foundation/USNI Essay Contest

*(Navy.mil 8 June 22) ... Mass Communication Specialist 1st Class Nathan K. Serpico*

*(NPS.edu 8 June 22) ... Mass Communication Specialist 1st Class Nathan K. Serpico*

Naval Postgraduate School (NPS) student U.S. Navy Ensign Sarah Clark was recently named the winner of the 2022 NPS Foundation/U.S. Naval Institute (USNI) Annual Essay Contest for her piece, "Pilot Identity Crisis," exploring the cultural impact of uncrewed aircraft on Naval aviation. Her essay will be published in the September edition of USNI's "Proceedings," an issue focused on Naval aviation.

Clark derived her essay from the thesis she is currently working on for her master's degree, which she is slated to receive at NPS' upcoming Spring Quarter graduation on June 17. According to Clark, she chose to write about Naval aviation identity and culture because she wanted a topic that combined her future as a pilot and her interests of airplanes and psychology.

"The Navy, like many organizations, has a historical trend of downplaying the psychological impact of technological transitions, which negatively impacts the service's effectiveness," stated Clark. "The purpose of my thesis is to emphasize that the psychological identity of Naval aviators must undergo changes concurrently with the changes in aviation technology, such as the development of uncrewed aircraft. My essay identifies some of the identity and cultural factors impacted by uncrewed aircraft and aims to help Naval aviation leadership minimize pilot resistance to newer uncrewed aircraft and their respective pilots to successfully integrate unmanned platforms into the Naval aviator identity."

Clark credits her class officer during her time at the Naval Science Institute in Newport, Rhode Island, as the initial spark for the idea of submitting an essay in one of the USNI essay contests. She also hopes that this contest will help her thesis to reach more people than those who may find it in [Calhoun](#), NPS' digital repository for research materials and institutional publications created by the NPS community.

Clark recalled being in NPS' Dudley Knox Library one evening when she received the e-mail saying she had been selected as the winner.

"I was surprised, excited and nervous," said Clark. "I immediately jumped up and ran to the other side of the room to my friend and shared the news, still jumping. I couldn't believe I had won.

"I'm happy and honored to be included with the distinguished few who have won the award in previous years," she continued.

Clark emphasized how glad she was that she decided to add to her already full school workload and submit her work to the competition. Even if she had not been selected, she says, it still would have been worth it.

"The topics and events discussed in this essay will impact my career for as long as I am in the Navy," Clark said. "The world of warfighting is constantly changing, and we need to be ready for all of the changes new technologies bring."

The NPS Foundation/USNI Annual Essay Contest is jointly co-sponsored by the NPS Foundation and USNI to encourage writing for publication and critical thinking among NPS students, faculty and staff.

[NPS Student's Analysis of Naval Aviation Wins Foundation/USNI Essay Contest > United States Navy > News-Stories](#)

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## Learning Opportunity

(UNM 9 June 22) ... El Gibson

UNM Prehospital, Austere and Disaster Medicine Program Coordinator Accepted into Selective Emergence Program

Ever the challenge-seeker, Jake Debevec has always known he wanted to work in emergency medicine.

Starting the Monday after he graduated high school, Debevec began his Health Sciences Center career as an emergency patient services technician at The University of New Mexico Hospital. He now works as a program coordinator for the Division of Prehospital, Austere and Disaster Medicine within the UNM School of Medicine's Department of Emergency Medicine.

"Essentially, I support the operations that happen outside of the hospital walls," he said, referring to organizations such as the International Mountain Medicine Center, the Center for Disaster Medicine, the Emergency Medical Direction Consortium and the Dr. George Kennedy Law Enforcement Operational Medical Center. "I think it's pretty rare to find a place where the work that you get to do makes an impact that's bigger than yourself."

Thanks to a new opportunity, Debevec is preparing for his next challenge.

In January, Debevec learned he was one of 32 people (from more than 1,000 applicants) accepted into the Center for Homeland Defense and Security Emergence Program through the **Naval Postgraduate School**.

The program, which will run seven months, from July to January, was created for Homeland Security and public safety professionals who are in the first half of their careers. Debevec will participate in educational forums and sessions exploring emerging trends, including "social and political radicalization" and the "growing number and severity of natural disasters," according to the Center for Homeland Defense and Security website.

[Learning Opportunity \(unm.edu\)](https://unm.edu)

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## FACULTY:

### Dogfight Over the Aegean: Turkish-Greek Relations in Light of Ukraine

(War on the Rocks 8 June 22) ... Ryan Gingeras

(Ahval News 10 June 22) ... Ryan Gingeras

Mutual hostility is nothing new in Turkish-Greek relations. Acts of provocation, as well as outright conflict, have long beset ties between the two states. However, as the war in Ukraine began, there were some indications that tensions between Ankara and Athens had eased. In the middle of March, Greek Prime Minister Kyriakos Mitsotakis journeyed to Istanbul to meet face-to-face with Turkish President Recep Tayyip Erdogan. The tone of the meeting, according to media reports, was positive and constructive. Both leaders emphasized that the war to the north provided the basis for the visit. In a statement prepared by Erdogan's communications directorate, it was agreed that "Turkey and Greece have a special responsibility in the European security architecture which has changed with Russia's attack on Ukraine." Mitsotakis and Erdogan concurred that it was important for both countries to find avenues of cooperation and "focus on positive agendas" that benefited both nations.

Since the meeting in Istanbul, however, relations between Greece and Turkey have deteriorated rapidly. Toward the end of April 2022, Athens decried what it characterized as an "unprecedented" number of airspace violations by armed Turkish aircraft over Greece's Aegean islands. During an official visit to Washington, Mitsotakis cited Turkey's behavior in lobbying Congress to oppose the sale of F-16s to Ankara. Erdogan responded by stating that he no longer "recognizes" Greece's prime minister, thus ending the possibility of future direct talks. More ominously, Turkish Foreign Minister Mevlut Cavusoglu issued a statement accusing Athens of unlawfully "militarizing" its territories in the Aegean Sea. Should



Greece refuse to “demilitarize” its Aegean islands, Cavusoglu warned that Greek sovereignty over its territories would be considered “debatable.”

Understanding why this conflict is escalating starts with appreciating both its long history and the divergent views of international law that drive it. But it also requires understanding how observers in both Greece and Turkey interpret the impact of the war in Ukraine. For both Greek and Turkish policymakers, Russia’s invasion has ushered in new risks and new opportunities for pursuing their divergent goals in the Aegean. In Athens, the war has bolstered fears of Turkish aggression and corresponding efforts to strengthen ties with Washington in light of what it considers an increasingly aggressive Turkey. In Ankara, the conflict has in turn reinforced fears of a joint U.S.-Greek effort to tame Turkey’s ambitions. Although neither side has construed Russia’s invasion as an overt pretext for escalation, these rival interpretations have come together to increase the risk of conflict in the Aegean.

### **The Weight of Law and History**

The current border between Greece and Turkey in the Aegean is the product of a tortuous series of wars and international agreements. With the signing of Treaty of Lausanne in 1923, the two countries agreed to the establishment of a fixed frontier across the Aegean Sea. Athens, for its part, retained most of the major islands off the Anatolian coast but promised that no “naval base and no fortification will be established” on these territories. The treaty also placed restrictions on military overflights by Greek and Turkish aircraft along the Aegean and limited the positioning of gendarmes and soldiers on the Greek islands.

Even though Athens and Ankara would sign another treaty of friendship in 1930, tensions and disagreements between the countries mounted in the decades that followed. With the conclusion of World War II, Italy ceded control of the Dodecanese islands to Greece. Despite Turkey’s objections, the 1947 Treaty of Paris, Rome awarded these 12 islands to Athens. Yet as in the Treaty of Lausanne, Greek sovereignty over Rhodes, Kastellerizo, and other territories in the chain came with the promise that these “islands shall be and shall remain demilitarized.” Conflicting claims over the sovereignty of Cyprus particularly widened the divide between the two countries. Unlawful overflights by Turkish military aircraft intensified over Greek islands in the violent aftermath of Cyprus’ independence in 1960.

Following Turkey’s 1974 invasion and partition of Cyprus, tensions rose further still in the Aegean. It was in this period that Turkish representatives voiced grave concerns over the territorial sovereignty of Greece’s islands, particularly the degree to which they restricted Turkey’s access to the Aegean seafloor (thus denying Ankara the ability to explore for oil underneath the continental shelf). Greece’s prime minister at the time countered that Turkish foreign policy “had now entered a new expansionist phase” as seen in both Turkey’s invasion of Cyprus and increased military activity in the Aegean.

This pattern of confrontation and provocation reached a boiling point in the mid-1990s. In 1995, the Greek parliament ratified the United Nation’s Law of the Sea, which, among other provisions, allowed states to declare jurisdiction over coastal waters up to a 12-mile radius. Fearing that such a stipulation would limit its access to the Aegean, Turkey was one of a handful of nations to oppose the U.N. agreement. Athens’ decision to endorse the law led to a fierce rebuke from Ankara, with then-Prime Minister Tansu Ciller declaring that any Greek decision to enforce a 12-mile line of control would be treated as a *casus belli*. Promises to limit Greece’s maritime borders did little to ease relations. When a Turkish freighter ran aground near the uninhabited island of Kardak (called “Imia” in Greek), political leaders clashed over the question of which country genuinely possessed jurisdiction over the island. With the fate of literally thousands of uninhabited rocks at stake, Turkey and Greece deployed ships and troop detachments in anticipation of war. At the end of January 1996, the Greek government relented after Turkish troops landed on Kardak and hoisted the Turkish flag.

Since 1996, neither Turkey nor Greece has demonstrated a willingness to revise its positions regarding the legal or diplomatic issues that divide the two nations. To this day, Ankara still decries what it sees as Greece’s unlawful militarization of the Aegean islands. Turkish aircraft regularly violate Greek airspace over the islands (a pattern that reportedly intensified throughout April 2022). Moreover, Turkey has recently reiterated its willingness to go to war should the Greek government extend its maritime borders to the 12-mile limit. With Athens increasingly seeking international support in its disputes with



Ankara, established mechanisms to defuse tensions, such as NATO mediation, have fallen victim to Erdogan's wrath.

### **Legacies of the Past: Athens' Perspective**

Why the two sides have proven so stubborn in recent years is as much a product of their bitter past as it is an outgrowth of conflicting interpretations of international law and mutual obligations. The 20th century began well for Greece. Having achieved its independence from the Ottoman Empire in 1821, the country grew significantly in size in advance of World War I. Perhaps of greatest importance, Athens boasted strong ties to two of the most powerful nations on earth, Great Britain and France. In 1919 Athens dispatched troops to the port of Izmir (or Smyrna) in the hopes of establishing a greater Greece that would dominate the Aegean and the eastern Mediterranean. This "Megali Idea," or "Great Idea" as it was often called, collapsed with the defeat of Greek occupation forces at the hands of the Turkish army in 1922. Under the Treaty of Lausanne, Athens was forced to recognize Turkey's sovereignty over Anatolia. However, despite vague public displays of irredentism, Athens does not question the territorial sovereignty of the Turkish Republic.

Other events further shaped Greek attitudes toward the Aegean. For much of the 20th century, bitter partisan divisions in Greece muddied the country's approach to matters of security and foreign policy. Ideological and personal loyalties, for example, frequently split the armed forces into opposing camps. Greece's civil war, fought between 1943 and 1949, as well as a bitter period of military rule between 1967 and 1974, added to popular distrust of the government and its security establishment. After the 1980s, for example, the country's military spending steadily plummeted. According to World Bank statistics, Greek defense spending is a fraction of that of neighboring Turkey. Domestic polarization has also affected popular and elite perceptions of the United States, Greece's closest ally. Despite decades of financial and material support, Washington has long been the focus of ire among Greek leftists. In addition to supporting the military government that seized power in 1967, the United States has often been blamed for failing to back Athens in its disputes with Turkey. Recently, Greek opposition leader Alexis Tsipras accused Mitsotakis of turning the country into a "U.S. satellite" despite Ankara's repeated provocations in the Aegean.

Nevertheless, the signing of defensive pacts with both France and the United States appears to signal the formation of a certain consensus in Athens. Despite disagreements on matters of cost and approach, both Tsiprias and Mitsotakis tend to concur on the need to strengthen the Greek military. In addition to the purchase of new weapons systems from France, Athens continues to deepen its ties with Washington. The prospect of a greater American presence in Greece (including the establishment of four joint training facilities) comes as Greek negotiators continue to pursue a deal that would see the purchase or upgrade of multiple ships from U.S. contractors. Philosophically, however, Greek security strategy remains grounded in a dogmatically defensive posture. The choice, as one former flag officer put it in 2014, is for Greece to either maintain a robust defense (especially a "strong and deterrent navy") or, if the worst should come, to accept the possibility of becoming "a satellite of Turkey." It is widely believed that Greece faces substantial obstacles in seeking to grow and modernize its armed forces. In addition to chronic economic shortcomings, Athens suffers from a sheer lack of capacity in terms of technological development and defense production.

Each of these factors have figured prominently in how Greek commentators have viewed the current state of affairs in the Aegean. The deterioration of Western relations with Russia, as one Greek scholar put it, "does not reduce Turkey's expansionist momentum but inflates it. Because, unlike us, Turkey no longer belongs to the West." Consequently, the scholar predicted that Erdogan would take advantage of the war in pushing Turkey's claims to the Aegean more forcefully. At the same time, there is still a great deal of apprehension as to the degree to which Athens can rely upon its allies for support. While commending the United States, Great Britain, and the European Union for their recognition of Greece's sovereign rights in the Aegean, Costas Iordanidis, a historian and frequent commentator on Turkish affairs, recently voiced a degree of caution. He argued that it was "naive to believe that the complete harmonization of Athens with Washington, in the war in Ukraine, would result in the practical support of Greek policy towards Turkey." Paramount in the minds of American policymakers was the



“normalization” of ties with Ankara. This desire, he concluded, had consistently led Washington to avoid any criticism of Turkey’s actions. Meanwhile, Athens continues to insist that Greece would not retaliate in the face of Turkish provocations. “Greek foreign policy,” as one government spokesperson put it, “is strongly based on history, international law and our alliances, no matter how much it bothers some.”

### **Legacies of the Past: Ankara’s Perspective**

Turkish policy in the Aegean is predicated upon many of the events that have shaped Greece’s outlook on the region. Greece’s seizure of its Aegean islands in 1912 corresponds to a time of defeat, humiliation, and suffering in Turkey’s national history. Unlike Athens, which historically boasted strong allies, the Ottoman Empire bore the cost of these and other losses alone. It is for this reason that Turkey’s victory over Greece in 1922 is remembered as an unparalleled victory for Turks today. In ending the Greek occupation of Anatolia, Ankara established its independence in defiance of Greece’s Western allies, particularly Great Britain. The cost of this triumph, however, was steep. Much of the Anatolian interior was left devastated in the wake of Greece’s retreat. Even though Greece and Turkey may be allies under the auspices of the NATO, Turkey still commemorates its war with Greece as a crime for which Athens has never been held accountable.

For many in Turkey, the Greco-Turkish war still serves as the crucial precedent that defines Turkey’s relationship with Greece and the West at large. The continuities, it is often said, are clear. U.S. opposition to Turkish policy in Syria, as well as recent European challenges to Turkey’s maritime rights, are cited as attempts similar to those of Greece’s Western allies to subvert Turkey’s sovereignty between 1919 and 1922. Erdogan has invoked the war when accusing the West of subverting the Turkish economy or organizing the 2016 coup attempt against him. On television and in Turkish print media, commentators have echoed these sentiments, emphasizing, above all, the belief that Greece plans to accomplish what it failed to achieve a century ago. Greece has never abandoned its desire to establish a “Greater Greece,” one former flag officer recently warned. Despite a century of reversals, Athens, he believes, still harbors “the ideal of capturing Istanbul” and re-establishing Christian rule in the city.

In looking specifically at the Aegean, Turkish commentators regularly decry Greece’s militarization of its islands as an indicator for Athens’ desire for war. Though visible evidence of active troop deployments in the Aegean is scant, Turkish media has documented the arrival of Greek troops to islands off the Anatolian coast. Prominent security commentators regularly suggest that the position of Greek forces in the Aegean constitutes an attempt to cordon off Turkey’s coastline or perhaps threaten the country’s interior. Athens’ defense of its actions has varied. While asserting the legal right to garrison some islands (particularly those in the north Aegean), Greek officials have long maintained that the country is forced to station troops on many islands due to the threat of invasion. In countering Turkish objections, Greek commentators have pointed to comments made by Erdogan questioning the validity of the Treaty of Lausanne as well as Greece’s sovereignty over its Aegean islands. Turkey, he declared in 2016, “gave away the islands at Lausanne” despite the fact that “they were ours” and “still possess our mosques and tombs.”

Recent changes to Ankara’s interpretation of its legal and historical rights to the Aegean have provided Turkish critics still more fodder in asserting claims to the sea. Over the last several years, press commentators have promoted the contention that international law gives Turkey the right to disregard maritime sovereignty of Greece’s islands. Under the aegis of the country’s new maritime doctrine, dubbed Blue Homeland or Mavi Vatan, former flag officers have played a key role in suggesting that Ankara is allowed to lay claim the eastern half of the Aegean sea floor. Erdogan has helped bolster these designs after signing a memorandum of understanding with the Tripoli government in Libya over a shared maritime border in the Mediterranean. For Ankara, the agreement validates Turkish arguments that Crete, as well as other Greek islands, possesses no legal standing in establishing Greece’s rights to the Aegean sea floor. Despite Greek insistence that such claims are in stark violation of the U.N. Law of the Sea, Turkish television commentators often suggest that a diplomatic path remains open in achieving Ankara’s claims in the Aegean. “Behind diplomacy,” one talking head recently said, “is the threat of force.”



The war in Ukraine has done little to moderate the bellicose language often heard from Turkey with respect to the Aegean. When Athens asserted there had been an unprecedented number of incursions into its airspace by Turkish jets in April and May, a spokesperson in Ankara rejected such claims, insisting instead that the Turkish air force had “reciprocated” in the face of Greek “provocative flights and violations.” Nightly news talk shows tend to feature more dire prognostications. In the wake of Erdogan’s pronouncement that he no longer recognized Mitsotakis, one former air-force general declared that Greece “is preparing for war” with Turkey. Turkish media sources now widely claim that Athens is complicit in an American-backed plan to use the crisis in Ukraine as pretext to undermine Turkey and its regional ambitions. Athens’ decision to accept a greater American presence in the country (particularly U.S. use of the Greek port of Alexandroupoli) constitutes a direct military threat to Turkish territory. NATO’s backing for Ukrainian resistance efforts, according to many, is part of this wider plan of asserting American control in the Aegean as well as the Black Sea. “Behind all of this,” noted one prominent columnist, “is the plan of the United States of America to expand its international hegemony.” Supporting Greece, as well as promoting NATO membership for Sweden and Finland, are each components of this broader ambition. Turkey, in each case, stands in the way.

### Real Risks

There is every reason to believe that a shooting war over the Aegean remains an unlikely event. After all, Athens and Ankara have managed to avert conflict for decades despite bitter disagreements over a host of issues. Moreover, given the uncertainty created by the war in Ukraine, the political and economic costs of armed confrontation in the region would be dire for both Turkey and Greece. Domestic affairs in both countries, however, may push political leaders to take drastic action. The popularity of Mitsotakis’ governing New Democracy Party has slipped in recent public polling, leading to questions over whether it would remain generally centrist or drift further right. The need to shore up his base and election prospects weigh even more heavily on Erdogan’s mind. With inflation running rampant and the popularity of his own party beginning to slip, his own reelection hopes have begun to flag. In recent weeks, Erdogan has demonstrated a willingness to stand in defiance of the West in spite of NATO’s relative unanimity in dealing with Ukraine. It is also clear that Erdogan does not necessarily fear the potential fallout from his threat to attack U.S.-backed Kurdish forces in Syria.

Making matters worse, Turkey’s current posture toward the Aegean is not solely the product of domestic politics. In assessing the impact the war in Ukraine could have upon Turkish foreign policy, scholar Selim Kuru suggested that Erdogan may sense a moment of opportunity to pursue a broad set of revisionist goals in its near abroad. Kuru prophesized that, with the backing of right-wing politicians and the country’s security establishment, Ankara “could push more strongly against Greek naval boundaries, which it believes to be unfairly stacked against it.”

To some extent, Turkey’s expressions of insecurity echo those of Russia’s in the lead-up to the war with Ukraine. Like the case of Turkish-Greek relations, Russia and Ukraine share a long history of antagonism and disagreement over matters of territory. Like Russian supporters of Putin’s war against Ukraine, prominent voices in Turkey similarly see the Aegean as a potential front in a proxy struggle against the United States. It may be this fear that has led Erdogan’s government to reiterate its threat to “take matters further” in challenging Greek sovereignty in the Aegean. If the current crisis in Ukraine imparts any lesson, it is that one should not underrate the risk of conflict. A war between Greece and Turkey is not only possible but perhaps, at some point, probable.

Ryan Gingeras is a professor in the Department of National Security Affairs at the **Naval Postgraduate School** and is an expert on Turkish, Balkan, and Middle East history. He is the author of six books, including the forthcoming *The Last Days of the Ottoman Empire* (to be released by Penguin in October 2022). His *Sorrowful Shores: Violence, Ethnicity, and the End of the Ottoman Empire* received short-list distinctions for the Rothschild Book Prize in Nationalism and Ethnic Studies and the British-Kuwait Friendship Society Book Prize. The views expressed here are not those of the Naval Postgraduate School, the U.S. Navy, the Department of Defense, or any part of the U.S. government.

[Dogfight Over the Aegean: Turkish-Greek Relations in Light of Ukraine - War on the Rocks](#)  
[Is a war between Greece and Turkey possible? - Analyst | Ahval \(ahvalnews.com\)](#)



## January 6th Intelligence Failure Timeline

*(Just Security 7 June 22)* ... Erik Dahl

### Introduction to the Timeline

This timeline presents a detailed listing of intelligence reports and other warnings that were available prior to the attack on the Capitol of January 6, 2021. Because this timeline is based solely on public, open-source information, it cannot be considered complete, but I believe it is the most comprehensive such list publicly available.

Some of these reports seem today as prescient, warning of violence on January 6, while other reports were more sanguine. A few, such as a warning that individuals were planning to fly an airplane into the Capitol on January 6, appear to have been false alarms—although without the benefit of an official inquiry that has access to the full classified record, we cannot know for sure.

We tend to learn the most about the inner workings of intelligence agencies after a major failure, and that truism certainly applies here. Students of intelligence, and hopefully intelligence agencies themselves, will be studying January 6 for years. The warnings and reports described here represent different aspects of the intelligence system, and for a former intelligence professional like myself who now teaches intelligence, they represent a remarkable example of what we call the “intelligence cycle”—how it works, or in this case, how it doesn’t work as well as the textbooks tells us it should.

That cycle begins with the requirements phase, with policymakers or other customers of intelligence asking questions of intelligence agencies, such as when Virginia Senator Mark Warner, chair of the Senate Intelligence Committee, contacted the FBI Deputy Director on January 4 to ask about the threat of violence on January 6. The next phase—which may occur simultaneously with the other phases— involves the collection of raw information, which in the case of January 6 came from sources as disparate as social media companies like Parler, and from private citizens who had (as the saying goes) seen something and wanted to say something.

This raw information is then processed and analyzed, and the January 6 timeline shows that intelligence analysis is far from a science. Warnings that one organization or analyst might see as threatening might be considered much less worrisome by another agency. Intelligence analysis is a subjective business, and as we see here warnings that one analyst might assess as indicating “nothing significant to report” can be seen by another as indicating that violence is possible or even likely.

Next, that information is turned into finished intelligence of many different kinds, ranging from daily intelligence reports (which may not get much attention) to special assessments. And finally, these intelligence products are shared with other intelligence agencies as well as with customers. It is an axiom in the intelligence business that intelligence is of no use if it doesn’t get to someone who needs it—and the timeline shows that the system of intelligence sharing within the American homeland security enterprise is very complex, involving familiar agencies such as the FBI, Secret Service, and DHS, but also organizations that you might not expect would have a role in assessing information about threats to the Capitol, such as a network of Transit and Rail Intelligence agencies, or the Postal Inspection Service.

This timeline is not itself an assessment or an analytical product, and its primary goal is to serve as a resource for others interested in understanding better what has been called a “massive intelligence failure.” But the timeline does tend to support the analysis of experts such as Mitchell D. Silber, who has argued that “[c]ollectively, the FBI, DHS I&A, and the Capitol Police has collected sufficient information to have imagined, warned about, and acted on the threat.”

Often the warnings before a disaster tend to be broad, general, and strategic in nature, such as the warnings before the 9/11 attacks that al Qaeda posed a threat to aviation (but which failed to point to the specific plot), or before the COVID-19 pandemic that the world was at risk from a global pandemic (without identifying the specific disease that would ultimately kill millions). Only rarely are the warnings before a catastrophe specific enough to provide what is known as “actionable intelligence.” But this

timeline shows that in the days and weeks prior to January 6, there was a considerable amount of actionable intelligence available.

One lesson from this timeline may be that often the most perceptive analysts are not those closest to the situation. In the case of January 6, organizations and individuals who might be assumed to have the most at stake, such as the Capitol Police, often appeared to be less concerned with the possible threat than analysts in other parts of the country.

Perhaps the most important lesson may be that as comprehensive as this timeline is, we cannot know what other warnings and assessments remain hidden from view. Only an official January 6 commission, modeled on the 9/11 Commission and with ready access to the full classified record, can provide a complete answer to the question of why, in the face of the many warnings we see here, the U.S. government was not prepared on January 6 to address the threat that led to the deadly assault on the Capitol.

In today's highly charged political atmosphere, it may not be possible to establish a bipartisan January 6 commission specific to the intelligence failures, but the next best option would be for the intelligence community, or individual elements such as the FBI and DHS, to conduct inquiries into what went wrong. Such intelligence postmortems have a mixed record of success, but they can prove useful. After the 2009 shooting at Fort Hood, Texas, for example, then-FBI Director Robert Mueller ordered two separate investigations: an internal FBI inquiry, and an independent review conducted by former FBI and CIA director William Webster. Such inquiries are needed now to resolve questions raised by this timeline and to help us avoid similar failures in the future.

Key sources of data in the timeline below include news media; organizations including the Anti-Defamation League, CREW, and Property of the People; and official reports from the Department of Homeland Security Office of Inspector General, the Government Accountability Office, and a staff report from the Senate Homeland Security and Governmental Affairs Committee and Rules and Administration Committee.

Numerous news organizations, think tanks, and analysts have produced timelines and chronologies highlighting other aspects of January 6, and the January 6 Clearinghouse includes several of the most useful. Others I consulted in developing this timeline include those produced by the National Security Archive, Grid News, and the Washington Post.

### **Erik Dahl**

Erik Dahl (@ ErikJDahl1 ) is associate professor of national security affairs at the **Naval Postgraduate School** in Monterey, California, and the author of *Intelligence and Surprise Attack: Failure and Success from Pearl Harbor to 9/11 and Beyond* (Georgetown University Press, 2013). His latest book is *The COVID-19 Intelligence Failure: Why Warning Was Not Enough* (forthcoming with Georgetown University Press). He is also a former chair of the Intelligence Studies Section of the International Studies Association, and prior to his academic career he served 21 years as an intelligence officer in the U.S. Navy.

[January 6th Intelligence Failure Timeline \(justsecurity.org\)](https://justsecurity.org/january-6th-intelligence-failure-timeline)

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### **Maritime Strategy and Naval Power in the 21st Century – Disassembling the Rubik's Cube**

*(T and F Online 3 May 22)* ... James A. Russell, Associate Professor

A year after the Eisenhower Administration came into office, Secretary of State John Foster Dulles announced that the United States intended to protect its allies and indirectly project military power through, as Dulles called it, the “deterrent of massive military power.” Dulles’s speech to Council of Foreign Relations on 12 January 1954 is seen as the dawn of the era of what became known as “massive retaliation,” which sought to apply America’s nuclear arsenal as a political and military instrument to serve the nation’s strategic interests around the globe.



Importantly, however, it wasn't just that Dulles gave the speech proclaiming the new era. President Eisenhower directed that the newly created United States Air Force receive a larger share of the Defense Department's budget to operationalise the new strategy. Leaders like Air Force General Curtis LeMay had been preparing for such a day for his entire career. He set about building up the Strategic Air Command to implement the new strategy with plans, programmes, policies, training, manpower, and procurement. LeMay and his colleagues did not need an engraved invitation from their political masters on what to do once Eisenhower's directive landed on their desks.

In parallel with the strategy appeared a wealth of writing, research, and analysis that sought to unpack the intellectual, political, and strategic dimensions of massive retaliation. The era spawned a new generation of writing by such authors as Bernard Brodie, Herman Kahn, Albert and Roberta Wohlstetter, and Thomas Schelling amongst other that mostly resided at the Air Force's federally funded research and development centre – known as Rand. Bernard Brodie's *Strategy in the Missile Age* (Princeton University Press, 1959) became the era's bible that explained the genesis and wider context of the nuclear revolution.<sup>1</sup>

Why open an essay on maritime strategy and naval power with this vignette? It is clear that in 2022, following America's costly defeats in Iraq and Afghanistan, that U.S. political leaders have finally recognised the need to shift their attentions to the building strength of China across the Indo-Pacific – a vast maritime domain that covers half the world's surface. In parallel, it is also clear that Russia continues to threaten Europe and the waters surrounding the littoral. Whereas in 1954 Dulles looked to the Air Force to operationalise a new strategy, the shift to the Indo-Pacific in 2022 means that the United States Navy must shoulder much of the burden across the region's massive oceans. This means the Navy must confront the possibility of fighting an actual war across these oceans thousands of miles from America's shores – a prospect that the Navy has all but forgotten in the 30 years since the Berlin Wall came crashing down in 1989. If it were the Air Force's proverbial turn in 1954, it is the Navy's turn in 2022 to take the lead role in national security strategy, planning, and operations.

This essay reviews a representative sample of the literature on maritime strategy and naval power that has emerged over the last several years that analyses the strategic implications of America's shift to the Indo-Pacific, Russia's threat to Europe, and the challenges this represents to the Navy. As was the case in the late 1950s for the Air Force, the 2020s has seen the reappearance of books and articles that address America's geostrategic pivot to the Pacific as well as the re-emergence of important questions surrounding European security. What had once been a comparative backwater of research and writing for the strategic studies community is slowly, but surely, coming alive with scholarship and commentaries to flesh out the problems of linking maritime strategy and naval power, not just in the Indo-Pacific but around the globe. All this work flows from the general recognition that the United States faces a dangerous threat from Russia, and a near-peer competitor on the high seas in China, for the first time in a generation. It's about time!

Another of the undeniable truths about writing, research, and scholarship surrounding maritime strategy and naval power is that there just has not been that much of it.<sup>2</sup> The field has largely atrophied over the last 40-odd years since then-Navy Secretary John Lehman published the *Maritime Strategy* in 1987 that sought to give the Navy a war-fighting role against the Soviet Union. Perhaps even more importantly, the document sought to provide justification for a bigger fleet that would need more money and a bigger chunk of the Defense Department's budget. Lehman's document thus had multiple audiences and multiple purposes – a truism that remains to this day for all government-produced reports that purport to present strategy.

The void in writing about maritime strategy, naval power, and the means to implement programmes devoted to the strategic problems of war at sea is being filled. Today, organisations like the Centre for Strategic and Budgetary Assessments in Washington DC, directed by the noted practitioner-scholar Tom Mahnken, is taking a lead role in using its many interesting reports to influence debates surrounding the kind of Navy the country needs to fight a war on the high seas. In addition, public officials also are joining the chorus for a rewed focus on the Navy and the need to reformulate a new and coherent maritime strategy to guide planning, missions, and force structure development.<sup>3</sup>



The academy also has been busy producing well-researched and relevant scholarship. Two recent volumes, Sebastian Bruns and Sarandis Papadopoulos, eds., *Conceptualizing Maritime & Naval Strategy: Festschrift for Captain Peter M. Swartz (ret.)*, and Alessio Patalano and James A. Russell, eds., *Maritime Strategy and Naval Innovation: Technology, Bureaucracy, and the Problem of Change in the Age of Competition*, provide excellent and complementary starting points in re-energizing the field. Another must for those seeking to dive into this literature is the dedicated July 2020 Issue of the journal *Security Studies* Vol. 29, Issue 4 that features a series of articles by top scholars that address the theme “Security Studies in an Era of Maritime Competition.” Anyone wanting a quick, but in-depth refresher on the many different aspects of maritime strategy and naval power in the twenty-first century could start with these three excellent sources.

As noted, the Bruns and Papadopoulos volume complements the Patalano and Russell effort. Geoffrey Till, a scholar that never stopped writing about navies,<sup>4</sup> opens the Bruns/Papadopoulos volume with his chapter titled “The Accidental Dialectic: The Real World and the Making of Maritime Strategy since 1945” (pp. 13–32). Till recounts what he calls the “Pinball Machine” model of how strategy is actually made, consisting of threat perception, drivers to strategy development, stakeholders that influence the direction of strategy, and the implementors that must then produce the “strategy” that emerges from this confused interaction. He is right to emphasise the confused, multi-level nature of the endeavour. His essay makes for an excellent companion to Hew Strachan’s chapter in the Patalano/Russell volume titled “Underwriting Innovation: Maritime Strategy and Geopolitics” (pp. 23–42). Strachan focuses on the genealogy of the concept of geopolitics as first suggested by Harold Mackinder that serve as the basis for thinking about the strategic environment and the role that a maritime strategy should play to serve the interests of the state. In building this inherently analytical effort in ways that are consistent with Till and Strachan’s suggestions, in their *Security Studies* article, “Too Important to Be Left to Admirals: The Need to Study Great Power Maritime Competition,” (pp. 579–600), Jonathan Caverly and Peter Dombrowski similarly call for a systematic approach to understand the complex political and military problems facing the United States as it confronts China on the high seas. Together, these three essays capture and define a kind of starting point for the United States Navy to draw upon in developing a maritime strategy that, in turn, can inform missions, equipment, and force structure.

The centrality of naval fleets to global strategy is back on the table, with Secretary of Defense Lloyd Austin’s call for something called “integrated deterrence” across the Indo-Pacific,<sup>5</sup> an initiative backed by billions of dollars in funding from the Biden Administration. Interestingly, Austin is re-inserting the U.S. Navy back into the fabric of deterrence – a role it performed during the Cold War and NATO’s subsequent adoption of the doctrine of Flexible Response in 1967. During the Cold War, the U.S. Navy deployed thousands of nuclear weapons on board ships, ranging from depth charges, to anti-submarine rockets, to free-fall bombs, as well as submarine-launched ballistic missiles in the Polaris and, later, the Trident nuclear-powered submarines that stabilised the balance of terror.<sup>6</sup> It is unclear whether nuclear weapons will return aboard ships in the modern era as part of plans to form some kind of multi-domain deterrence and escalation web reminiscent of an earlier era. NATO adviser James Henry Bergeron takes on the issue of “Deterrence in its Maritime Dimension” (pp. 33–50) in the Bruns/Papadopoulos volume, reminding readers of the complex historical experience that navies played in supporting deterrence for NATO in the Cold War. Despite the current policy emphasis on deterrence, however, Jonathan Caverly and Peter Dombrowski raise serious questions about the inherent instability between the U.S. and Chinese fleet designs in their *Security Studies* paper “Cruising for a Bruising: Maritime Competition in an Anti-Access Age” (pp. 671–700). The authors raise questions about whether there can be a stable maritime balance with these two navies. Regrettably, at sea, the timeless truisms of the benefits that accrue to shooting first remain applicable, as emphasised years ago by the late Wayne Hughes.<sup>7</sup>

This points to a more general question: to what extent should the navies of today mine their long-forgotten past experiences to inform their approaches to the problems of the present? The literature covered in this review provides an emphatic endorsement of an historical perspective, even as today’s navies remain overwhelmed by the problems of the moment. Indeed, part of the purpose of the re-energised literature on maritime strategy and naval power is to remind current political and military leaders that variations of current strategic problems were confronted in earlier eras. For example, this isn’t



the first time the United States has had to think through the problems of conducting significant military operations in the Western Pacific – a problem that consumed a decade’s worth of gaming and analysis under the rubric of the War Plan Orange war games and planning in the 1930s.<sup>8</sup> The Patalano-Russell volume includes an historical section that reminds readers of historical circumstances that are germane to the problems of the present. Daniel Moran’s chapter “Technological Disruption and Strategic Innovation: Underwater Weapons in World War I” (pp. 74–89) provides a clear framework to think through the 2nd and 3rd order effects that can be created by the introduction of new weapons generalised in an opposing fleet. Likewise, but on a different subject, Peter Haynes’ essay “Elmo Zumwalt’s Project Sixty: Driving Institutional Change in an Era of Great Power Competition at Sea” (pp. 91–112) in the Bruns/Papadopoulos volume draws a direct link between the challenges of institutional change across historical eras. The case of Zumwalt’s only partially successful attempts to reorient the Navy after the Vietnam War towards the demands of confronting the Soviet Union on the world’s oceans offers many insights to naval leaders trying to grapple with the need for institutional change in response to new developments in the strategic environment.

The problem of trying to change and/or prod navies to innovate in response to strategic, political, bureaucratic, technological, and/or adversarial developments is fully addressed in this literature. For many researchers and analysts enmeshed in the field, there is a lingering sense that institutions like the U.S. Navy are not responding quickly enough to keep pace with the aforementioned trends,<sup>9</sup> and there are serious doubts whether current bureaucratic structures are in fact capable of dramatic changes. Many fear that the prospect of a Pearl Harbor-type shock may be the only thing that spurs change-resistant bureaucracies and communities to tear up their respective play books and start over.

The Patalano/Russell volume takes on these questions in earnest, directly tying the phenomenon of innovation not just to technology but to the bureaucracies tasked with generalising change on an institution-wide basis. For without generalisable change, there can be no innovation. Indeed, the U.S. Navy has made a number of expensive and disastrous attempts to introduce two new innovative ship classes like the DDG-1000 and the Littoral Combat Ship which both had to be scaled back for various reasons. In his chapter “Innovation and Navy Time” (pp. 187–202), Jim Wirtz highlights the perennial challenge of linking personnel and career management systems to the speed of technological change. Wirtz argues convincingly that these balky management systems make it difficult, if not impossible, for the U.S. Navy to preserve an adaptive and flexible organisation that can quickly change to integrate new technologies, operational concepts, and platforms. The historical record of attempted change also is covered by Amund Lundesgaard in his chapter “The Difficult Art of Achieving Military Change: The U.S. Navy after the Cold War,” (pp. 267–280) in the Bruns/Papadopoulos volume. Another of the instrumental forces prompting changes in navies are, of course, adversary interactions and assessments of enemy capabilities. In the Bruns/Papadopoulos volume, Michael Carl Hass delivers a masterful chapter titled “In Search of the Enemy: Revisiting the Cold War at Sea in Era of Renewed Strategic Competition” in which he points out the persistent and fundamental errors the plagued U.S. Navy assessments of Soviet naval power that, as noted, led to a “... threat inflation frenzy ... ” (p. 208) during the Cold War. The unplumbed lessons of this era are germane and should be required reading for anyone involved in the developing naval confrontation between the United States and China.

So where do we go from here? Or, stated differently, how does the U.S. Navy and its coalition partners prepare for the challenges of a rising China across the Indo-Pacific and the re-emergence of an aggressive Russia on the borders of Europe? There is a palpable sense of disquiet that the U.S. Navy, at least, remains unprepared for the future maritime battlefield. Over the last quarter century, China, Russia, and others have invested in anti-access, area denial systems that many believe have altered the balance between ship- versus shore-based weapon systems. Today, land-based weapons clearly outrange those launched at sea, altering a calculus that has been a foundation of American naval power in the post-World War II era. The proliferation of long-range ballistic and cruise missiles<sup>10</sup> adapted to the maritime domain with precision-strike complexes have challenged the primacy of America’s aircraft carriers, or at least raised serious doubts whether the United States should continue pouring money into its vulnerable carrier fleet. These developments also have come with the emergence of new “all-domain” operating concepts that have evolved since ideas like the “Air–Sea” battle were first unveiled nearly a decade ago.



In her Security Studies article “The Maritime Rung on the Escalation Ladder: Naval Blockades in a US–China Conflict,” (pp. 730–768), Fiona Cunningham unpacks the impact that all the above might have on a tried and true naval tactic – the blockade – in the event of a US–China war. Cunningham proposes consideration of a “distant blockade” beyond the range of China’s long-range missiles as one way to control escalation, whilst exerting coercive leverage to achieve an acceptable war termination outcome. The article is an excellent example of policy relevant scholarship arising out of the evolving strategic circumstance across the Indo-Pacific that in some ways mirrors the path breaking work of the nuclear strategists at Rand in the 1950s.

Importantly, not all this literature is focused on the Indo-Pacific and China. The Bruns/Papadopoulos volume contains several excellent chapters on European naval issues, notably Eric Thompson and Sarah Vogler’s “Regional Conflict, Hydrocarbon Dreams, and Great Power Competition: Considerations for U.S. Naval Strategy in the Eastern Mediterranean” (pp. 295–320) and Jeremy Stohs’s “Bastion, Backwater, or Battlefront? Changing Strategic Views Along Europe’s Northern Shores” (pp. 321–344). The Russell Patalano volume likewise addresses European naval issues in Brooke Smith Windsor’s “Innovating with U.S. Allies: Leveraging NATO’s Exceptionalism,” (pp. 217–236) and Thomas-Durell Young’s “Naval Transformation in the Face of Legacies and Memories: The Case of NATO’s ‘New’ Navies,” (pp. 249–263). A theme of these chapters is to highlight the development of coalition maritime operations surrounding the European littoral, which, in and of themselves, have become important (or not, as noted by Young’s chapter) sources of alliance cohesion and capability.

Where does all this leave maritime strategy? The answer is unclear. One of the overriding purposes of the Bruns/Papadopoulos volume is to celebrate the contributions of the recently retired Peter Swartz, widely and justifiably recognised as an eminence grise in the field of writing on navies.<sup>11</sup> Swartz built a long and storied career after retiring from the U.S. Navy at the Center for Naval Analyses writing about Cold War History and the cycles of U.S. Navy tactics and operations over the era. In many ways, Swartz also must be seen as emblematic of the institution from which he came which was and remains overwhelmingly focused on tactics and operations – providing analysis that was of principal interest to his and CNA’s Navy patrons. This is not to suggest that the U.S. Navy, at least, has not released a bevy of documents over the last decade or more that purport to describe its broader strategic purpose.<sup>12</sup> These documents, however, seem more intended for audiences on Capitol Hill than as clear-headed enunciations of maritime strategy and the role of the Navy should play in furthering national interests.

The broader question of maritime strategy returns us to the two benchmark pieces written over a century ago: Alfred Thayer Mahan’s *The Influence of Seapower on History* (Boston: Little, Brown and Co., 1890) and Julian Corbett’s *Some Principles of Maritime Strategy* first published in 1918 (Mineola: Dover Publications, 2004). To these two foundational works should be added Bernard Brodie’s *A Layman’s Guide to Naval Strategy* (Princeton: Princeton University Press, 1942). These three seminal works should form the basis for researchers and scholars considering the broader issues surrounding maritime strategy in the twenty-first century.

The fact that we must point to pieces, some of which were written over a century ago, suggests that perhaps this foundational literature is in serious need of an update to account for modern context. Mahan’s work is widely recognised as being based on a selective and incomplete consideration of history, whilst Corbett’s work perhaps remains more relevant due to its clear argumentation that maritime strategy should flow from national strategy; which, together, form the boundaries for the exercise of naval power.

Is the nation entering a new era where maritime strategy becomes a centerpiece of national strategy? Returning to the example of the Air Force in the 1950s, despite entering an era where it is clear that navies and naval power matter more than they did a quarter century ago, it remains unclear whether the U.S. Navy will receive a greater share of the Defense Department’s budget. The U.S. Navy shipbuilding programme, for example, remains mostly committed to building the new Columbia-class ballistic-missile submarines to modernise the nation’s undersea nuclear deterrent, leaving scant funding for other new ships. Early indications from the Biden Administration are that there will be no budgetary adjustments in favour of the Navy at the expense of the other services, despite the obvious strategic emphasis on confronting Russia and China on the high seas following the defeats in Iraq and Afghanistan.



The literature covered in this essay suggests that there is cause for optimism that a new wave of scholarship is making a good start at filling the analytical void brought to the fore by America's pivot to the Indo-Pacific maritime domain and the broader anti-access aerial-denial challenge around the globe. Like the analysis of the 1950s that guided the nation's thinking on nuclear weapons, the balance of terror, and the eventual shift to flexible response in the 1960s, one can only hope that this scholarship represents the beginning of a broader effort to think through the dimensions of global maritime strategy and naval power across the world's oceans. The argument in this essay is that we have made a good start and are off and running! Let us hope that political leaders catch up as well.

[Full article: Maritime strategy and naval power in the 21st century – dissembling the Rubik's cube \(tandfonline.com\)](#)

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## Why Martell left Lyft for Pentagon's top AI job

*(c4irsnet 7 June 22) ... Colin Demarest*

The Pentagon's new chief digital and artificial intelligence officer said the gravity of the situation and the need to get things right motivated him to leave ride-hailing company Lyft Inc. for government work.

"It's not for the joys of the job, because it's going to be arduous," CDAO Craig Martell said June 7 at a virtual conference hosted by the Department of Defense. "I'm doing it because of the mission."

Martell was named the chief in late April, about two months after the digital and AI office reached initial operations. He succeeds John Sherman, who took on the role in an acting capacity.

The CDAO is considered an expeditor of all things AI and data analytics at the Pentagon, subsuming offices including the Joint Artificial Intelligence Center to better coordinate and collaborate. The stakes are high as rival nations including Russia and China invest in military AI. The Defense Department itself is tackling hundreds of AI projects and considers the technology revolutionary for both security and business.

"There are not a lot of folks who have the intersection of AI and a government background," Martell said Tuesday. "So when the deputy secretary of defense calls you up and says, 'We would like you to take this job,' you have to think really hard about why you wouldn't take the job, and not the other way around. And I think getting this mission right is extremely important."

At Lyft, Martell was a head of LyftML, the company's machine-learning division, for just over two years. He also worked at Dropbox and LinkedIn and was a tenured computer science professor at the **Naval Postgraduate School**. Unlike other CDAO leaders, he has no previous Pentagon experience.

Deputy Secretary of Defense Kathleen Hicks this year praised Martell for his "cutting-edge industry experience," which she said would help solve the Pentagon's unique problems.

The CDAO achieved full operations on schedule June 1. The office reports directly to Hicks.

"We are increasing our competitive advantage by bringing these different groups together," Margaret Palmieri, the deputy CDAO, said at the conference. "All the right levers of change and influence are coming into play in the CDAO."

[Why Martell left Lyft for Pentagon's top AI job \(c4irsnet.com\)](#)

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## ALUMNI:

### **President Preckwinkle Appoints New Executive Director for County's Department of Emergency Management and Regional Security**

*(Cook County 7 June 22)*

Cook County Board President Toni Preckwinkle announced today the appointment of Theodore "Ted" Berger as executive director of the County's Department of Emergency Management and Regional Security (EMRS).

Berger returns to EMRS, where he was chief deputy director from 2017 – 2021, serving as deputy incident commander for the County's COVID-19 unified command response directly managing emergency operations center activation with over 200 personnel. During his tenure with EMRS, Berger also served a nine-month assignment as interim deputy chief of staff to President Preckwinkle, providing intergovernmental and operational coordination between six bureaus and 34 departments.

"Ted has tremendous experience in emergency management and administration within Cook County Government and other agencies across the state," President Preckwinkle said. "I am thrilled to welcome him back to EMRS in this new role and confident that he will uphold EMRS' mission to ensure our residents' safety."

Most recently he served as deputy chief of staff at the Cook County State's Attorney Office where he supported daily operations and provided project management leadership, helping to oversee the second largest prosecutor's office in the country.

Prior to entering Cook County Government, Berger served four years as the chief of staff for the City of Chicago's Office of Emergency Management and Communications. He has also worked as chief of staff for the Office of the Illinois State Fire Marshal as well as positions with the Illinois Department of Commerce and Economic Opportunity, Illinois State Toll Highway Authority, Illinois Department of Transportation and Office of the Governor. Outside of his full-time employment, Berger has served as a part-time firefighter, previously holding the rank of deputy chief with the North Park Fire Protection District in Machesney Park, Illinois. He has also served as a volunteer associate staff member for the White House Office of Scheduling and Advance.

"I am thrilled to return to lead this critical department," Berger said. "I look forward to utilizing my policy, administrative and emergency management experience to help ensure the safety and security of residents across Cook County once more."

Berger holds a Master of Arts in Security Studies from the **Naval Postgraduate School** and Bachelor of Arts in Political Science with a minor in Speech Communication from Bradley University.

Berger resides in LaGrange, Illinois with his wife and two children.

[President Preckwinkle Appoints New Executive Director for County's Department of Emergency Management and Regional Security \(cookcountyil.gov\)](#)

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### **Retired U.S. Navy Vice Admiral Michael Franken Wins Iowa Democratic U.S. Senate Nomination**

*(Blasting News 8 June 22)* ... Samantha Spencer

Michael Franken served in the United States Navy for four decades. He ultimately retired with the rank of vice admiral. Throughout his career, he received some of the highest decorations given by the U.S. military, including the Defense Distinguished Service Medal and the Navy Distinguished Service Medal.

More recently, Franken has set his sights on the political world and, in particular, the United States Senate. His first attempt in 2020 came up short. His second try in 2022 has gotten him at least one step further along.

Declared winner in Iowa Democratic primary election



Michael Franken has won the Democratic nomination in Iowa's U.S. Senate race. His victory might be considered something of an upset. He defeated former U.S. Representative Abby Finkenauer for the nomination. As indicated by The Des Moines Register, Finkenauer had at least at the start been considered the frontrunner in the primary.

Franken is now set to face off with longtime Republican incumbent Chuck Grassley in the general election. Grassley has previously been president pro tempore of the Senate and a committee chairman several times over.

Previously, Franken had sought the Democratic nomination for the Iowa U.S. Senate seat up during the 2020 election cycle.

But he would lose handily to real estate developer Theresa Greenfield. In turn, Greenfield would lose the general election to Republican incumbent Joni Ernst.

As a Naval officer, Franken would serve aboard several destroyers. Eventually, he was named the commanding officer of the USS Winston S. Churchill. Franken would also assume command of Destroyer Squadron 28.

Franken's other assignments would include working closely with Defense Secretary Donald Rumsfeld. He also served in the Office of the Secretary of the Navy and with the Joint Chiefs of Staff.

Over the years, Franken also served tours of duty in various other roles. Including the U.S. Africa Command, U.S. Central Command, U.S.

Third Fleet, and U.S. Fleet Forces Command.

Michael Franken is a native of Sioux Center in northwestern Iowa. He would attend what is now Morningside University in nearby Sioux City, followed by the University of Nebraska. Franken later received further education from several other schools. Including the **Naval Postgraduate School**, MIT, and the University of Virginia.

At least four flag officers are currently members of the United States Congress

In the U.S. military, flag officers are either generals or admirals, depending on what branch they serve in. There are currently at least four members of Congress who've reached such a rank in the military. Jack Bergman of Michigan, Trent Kelly of Michigan, Ronny Jackson of Texas, and Scott Perry of Pennsylvania.

A fifth, Steve Stivers of Ohio, left office last year before his current term had expired. All of the current examples are Republicans, and all are members of the House of Representatives.

[Retired U.S. Navy Vice Admiral Michael Franken wins Iowa Democratic U.S. Senate nomination \(blastingnews.com\)](https://www.blastingnews.com)

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## **Cmdr. Sibley Passes the Torch to Cmdr. Teague at NAS Meridian**

*(The Meridian Star 10 June 22) ... D'Courtland Christian*

Commander Christy Sibley was humbled as she handed over command of Naval Technical Training Center at Naval Air Station Meridian to Commander Karen J. Teague during a ceremony at the Navy Reserve Center Friday.

“What a privilege it was to serve you,” said Sibley, who has served as commanding officer of the center since April 2020.

As commanding officer, Sibley led four officers, 60 enlisted, 23 civilian personnel, and 30 contractors in executing a \$1.4 million annual operating budget and maintaining physical assets valued at \$74 million to become the premier schoolhouse in the Naval Education and Training Command.

“Being a part of the military services, we get to move on and experience new things, but it's also the worst part because it's hard to leave the people and the mission behind,” said Sibley.

“It's the people I will miss the most,” she added. “It's the people that make every day for me. Sometimes a challenge but always a rewarding experience. When we tackle anything, we tackle it together, and you cannot put a price on that.”



Teague, a native of Oakdale, California, graduated from the University of California, Davis in 2006 with a Bachelor of Science in Exercise Biology.

She earned a Master of Science in Operations Research at the **Naval Postgraduate School**, Monterey, California, completed JPME Level I, and a Foundations of Executive Leadership certificate from Washington University, St. Louis, Missouri.

Commander Teague also received her commission through the Navy Reserve Officer Training Corps from the University of California at Berkeley in June 2006. Friday she became the 25th commanding officer of Naval Technical Training Center Meridian.

“It is an amazing feeling, and I could not ask for a better team to be a leader for,” Teague said. “The things that the people do here will never be written in the history books, but yet the impact they have is profound.”

[Cmdr. Sibley passes the torch to Cmdr. Teague at NAS Meridian | Local News | meridianstar.com](#)

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## **Names in the News: June 12, 2022**

*(Fire Engineering 12 June 22)*

Brian Sturdivant was sworn in as the new chief of the Lansing (MI) Fire Department (LFD) on June 8. Sturdivant is a 30-plus-year fire service veteran. He became chief of the Battle Creek (MI) Fire Department in September 2018 and has also served as the chief/emergency manager in Milpitas, California; an executive deputy chief/emergency management coordinator in Petersburg, Virginia; a deputy chief in Scottsdale, Arizona; and a battalion/division chief in Atlanta, Georgia. Sturdivant graduated from the **Naval Postgraduate School** with a master’s degree in homeland defense and security and earned the Chief Fire Officer designation from the Center for Public Safety Excellence.

[Message from Clarion Events Fire & Rescue \(fireengineering.com\)](#)

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