



# NPS IN THE NEWS

## Weekly Media Report – August 2 - 8, 2022

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### RESEARCH:

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## FACULTY:

### [What We Have Learned So Far](#)

*(Topwire News 7 Aug 22)*

*(Bharat Express 7 Aug 22)*

*(RTL Today 7 Aug 22)*

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China's live fire drills around Taiwan — with ships circling the democratically-ruled island — have offered an unprecedented glimpse into how Beijing could mount a military campaign against its neighbor...“This crisis will signal that Beijing is able to repeat — and intensify — similar responses at will,” said Christopher Twomey, a security researcher at the US **Naval Postgraduate School** in California.

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*(Economist 20 July 22)*

Warfare is complex—and, as those who start wars often discover to their chagrin, unpredictable. Anything which promises to reduce that unpredictability is thus likely to attract both interest and money. Add the ability of modern computers to absorb and crunch unprecedented amounts of data, and throw in a live, data-generating war in the form of the conflict now being slugged out between Ukraine and Russia, not to mention the high level of tension across the Taiwan Strait, and you might assume that the business of trying to forecast the outcomes of conflicts is going into overdrive. Which it is... One piece of software dedicated to this end is the Major Combat Operations Statistical Model, mcosm, developed by engineers at the **Naval Postgraduate School** (NPS) in Monterey, California. mcosm runs algorithms based on data about 96 battles and military campaigns fought between the closing year of the first world war and the present day. When fed information about Russia's initial push to seize Kyiv and subjugate Ukraine, which began on February 24th, the model predicted, on a scale of one to seven, “operational success” scores for the attacker and defender, respectively, of two and five.

### [Russia Looms Large Behind OPEC+ Hike Decision](#)

*(Nikkei Asia 6 Aug 22) ... Nesreen Bakheit*

OPEC+ blamed capacity constraints for a meager oil output increase in response to pleas from U.S. President Joe Biden to open the taps wider, but experts are citing another reason for the stinginess: Russia... Brenda Shaffer, an energy expert at the U.S. **Naval Postgraduate School**, shares a similar view.

## ALUMNI:

### [Rear Adm. Mike Studeman Named Office of Naval Intelligence Commander, NMIO](#)

#### [Director](#)

*(Exec Gov 2 Aug 22) ... Naomi Cooper*

U.S. Navy Rear Adm. Mike Studeman assumed leadership of the Office of Naval Intelligence and the National Maritime Intelligence-Integration Office during a ceremony held at the National Maritime Intelligence Center in Suitland, Maryland...Studeman is a distinguished graduate of the **Naval Postgraduate School** and previously held intelligence leadership positions in support of Operations Desert Shield and Desert Storm and Operation Enduring Freedom deployments.

### [Seeing Clearly: The Need To Fund ENVG-B](#)

*(Real Clear Defense 4 Aug 22) ... Paul Ostrowski*

Night vision devices are critical to delivering overmatch on modern battlefields. The Army has recently developed two overlapping but distinct systems to deliver situational awareness in everything from close combat to combat support operations, enabling uninterrupted operations in multi-domain battlespaces devoid of clearly established front lines. As these devices serve distinct purposes and represent differing levels of maturity, the Army should continue with its strategy to procure both the Enhanced Night Vision Goggle-Binocular (ENVG-B) and the Integrated Visual Augmentation System (IVAS)... Paul is a graduate of the United States Military Academy at West Point, and has earned a Master of Science in Systems Acquisition Management from the **Naval Postgraduate School**, and a Master of Science in National Resource Strategy from the Industrial College of the Armed Forces/Eisenhower School in Washington D.C.



## [USS Anchorage Changes Command](#)

*(DVIDS 1 Aug 22) ... LTJG Eileen Brady*

Capt. Daniel Keeler relieved Capt. Pete Riebe as commanding officer of USS Anchorage (LPD 23) during a change of command ceremony, August 1... Keeler graduated with merit from the United States Naval Academy in 1998 with a degree in Political Science. He received his master's degree in Business Administration from the **Naval Postgraduate School** in 2006 and completed Naval Nuclear Power training in 2019. Most recently he served as the Executive Officer aboard USS Theodore Roosevelt (CVN-71).

## [Navy Reserve Region Readiness and Mobilization Command Fort Worth Holds Change of Command, Retirement Ceremony](#)

*(DVIDS 5 Aug 22) ... Petty Officer 1<sup>st</sup> Class Lawrence Davis*

Commander, Navy Reserve Region Readiness and Mobilization Command Fort Worth (REDCOM FW) held a change of command and retirement ceremony, Aug. 5, onboard Naval Air Station Joint Reserve Base Fort Worth... Seeman, is a native of Baltimore, Maryland. Upon graduation from the United States Naval Academy in 1997, he accepted a commission as a surface warfare officer and attended division officer school in Newport, Rhode Island. After several initial sea tours, Seeman earned a Master of Science degree in Information Systems Management from the **Naval Postgraduate School** in Monterey, CA and a Master of Arts degree in National Security and Strategic Studies from the Naval War College.

## **UPCOMING NEWS & EVENTS:**

**Aug 8-12:** [Center for Executive Education NSLS Workshop](#)

**Aug 15-19:** [JIFX 22-4](#)

**Aug 18:** Secretary of the Navy visit and Guest Lecture (King Hall 1015)

**Aug: 23-25:** AI Shura (NWSI)

**Aug 30- Sept 1:** [Emerging Technology Awareness \(ETA\) for the Warfighter](#)



## RESEARCH:

### Wisdom and Warfare – Athena Sets Sail at NPS to Solve Fleet Operational Problems

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Following years of discussion, the Naval Postgraduate School (NPS) is launching an ambitious initiative that will help keep NPS, and the Department of the Navy, in-the-know on operationally-focused research – past, present, and future – to help accelerate solutions to critical problems impacting naval forces today.

Aptly named after the ancient Greek goddess of wisdom and warfare, Athena is an innovative collaboration tool intended to accelerate NPS research into capabilities by illuminating the totality of prior and current work at NPS. Athena will increase NPS impact by creating a dynamic, real-time resource for connecting fleet and joint force needs to prior NPS work, our students, faculty and other researchers across the Naval Research and Development Establishment (NR&DE).

“Athena is based on a pretty simple idea that comes from industry best practices in research and development, which is ‘work with the people who work with your product,’” explains U.S. Marine Corps Col. Randy Pugh, NPS’ Senior Marine Representative and Deputy Director of the Naval Warfare Studies Institute (NWSI) at NPS. “In our case, the people who work with our product are naval warfighters and the folks who support them with concept and capability development. By getting all of these key players together, and providing easy access to what has and is being worked on, or could be worked on, we are setting them up to collaborate networking across traditional silos.”

The concept and subsequent development for Athena was initiated in 2019 by then NPS student Marine Corps Maj. Ryan Tice, with aspirations to help university students increase the impact of their research by creating a search engine to link experts to operators to solve operational needs. Upon Tice’s graduation, Marine Corps Capt. Benjamin Cohen took over as the lead student and served as the primary liaison between NPS and collaborators.

“One of the key features of Athena is a very robust search tool,” said Cohen, who is now director of the NavalX SoCal Tech Bridge in San Diego working for the Office of Naval Research. “Once the connections are made to allow Athena to search NPS and external research databases, users will find that they have an incredible amount of information available to them that can be leveraged to narrow, expand or redefine their own research.”

This student perspective drove the evolution of the tool into a mechanism that empowers the warrior-scholars at NPS to advance their impact by maximizing their awareness of all ongoing and past work at NPS. Students seek direct feedback from the fleet and sponsors regarding real-world problems they can address, and Athena provides them with the ability to get the answers directly back into the hands of the warfighters.

With support from the NPS Foundation the project moved from concept to a fully functioning application that has been gifted to NPS. Hosted in Microsoft’s cloud computing platform, Azure, Athena is a discovery engine for NPS research, and will connect across a number of disparate defense research databases allowing students and other users to search topics and projects that may apply to their needs.

“We see a ton of mid-career officers, senior enlisted personnel and civilians who show up at NPS and ask the question, ‘What should I work on that would be of importance to the Navy, Marine Corps, or the Joint Force?’ And not be able to find an easy answer to that question,” noted Pugh.

“Athena is able to sweep all of these research-related things into a pile and then sort them based on what problem you are trying to solve,” he continued. “So, whether that’s based on your curriculum or on your occupational field or on your interest, now they can go in and find completed, ongoing and potential topics for future applied research, as well as other like-minded professionals to connect with.

“Another huge attribute of this program is the capability to receive input from the ‘front lines,’” added Pugh. “Some problems are driven from the top down, like building the next class of ship or the newest weapons systems, but a lot of the things that we could be working on, as far as applied research goes, come from the bottom up. Using Athena, the deckplate Sailor on a ship or a Marine in an infantry



battalion can identify a problem that they have and then we could help solve it. We certainly want to include them on the input side of Athena, feeding us their very real problems so that we can work on them.”

Education in today’s technology-driven strategic competition is a growing priority. According to Chief of Naval Operations Adm. Michael Gilday’s recently released NAVPLAN 2022, one of four priorities is to, “Invest in trained, resilient, and educated Sailors that can out-think, out-decide, and out-fight any potential adversary.”

Additionally, the NAVPLAN states, “We owe it to our people to create an ecosystem that recruits and retains diverse and technically-skilled personnel, educates them to out-think our adversaries, trains them to work with new technologies, and provides them with the resources to prevail in competition, crisis, and conflict.”

Since the emergence of Athena, NPS and Microsoft have announced a cooperative research and development agreement and are collaborating on the continued development and integration of Athena is part of the CRADA’s “Campus of the Future” initiative.

“NPS education and research delivers warfighter capability,” said retired U.S. Navy Vice Adm. David H. Lewis, current director of NWSI. “Education at NPS constitutes a strategic investment in our people, which is about gaining decision advantage for our naval forces in future conflicts. Research expands, enriches, and thus enhances our educational mission in the near term by delivering new knowledge, new understanding, and real outcomes based on that new knowledge. Athena is a powerful connector that supercharges our education and research missions in support of future warfighting advantage.”

[Wisdom and Warfare – Athena Sets Sail at NPS to Solve Fleet Operational Problems > United States Navy > News-Stories](#)

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## **Xerox’s Fittle Division to Help Vlack Buffalo 3D Bring Concrete 3D Printing Technology to the Market**

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Xerox’s equipment financing business has agreed to support Black Buffalo 3D’s efforts to accelerate the adoption of its construction 3D printing portfolio.

Recently rebranded FITTLE, the Xerox financial services unit specializes in helping firms adapt to market conditions and grow, while identifying opportunities for its parent company to expand into new areas. As part of a newly-signed collaboration deal, the business is now set to help Black Buffalo 3D’s technologies gain traction in construction, by offering to finance projects in which they can be deployed.

“This partnership just makes good sense, and we are thrilled for our customers,” added Tim Murphy, President of Black Buffalo 3D Finance. “It’s the convergence of ConTech and FinTech, which now enables construction firms and contractors to solve the affordable housing crisis faster, more efficiently, and with manageable monthly payments instead of massive upfront costs.”

### **Black Buffalo 3D’s NEXCON technology**

Based in Pennsylvania, Black Buffalo 3D manufactures construction 3D printers that are designed to be rented out on a ‘pay-per-print’ basis. The company fulfills such orders using its proprietary NEXCON gantry-mounted systems. These units feature a modular track system, which allows users to customize their print area, meet project-specific requirements and scale to realize large community builds.

Black Buffalo 3D’s NEXCON machines also incorporate an open hopper design, thus providing users with a direct line of sight for inspection, while its print speed of 9.8 inches per second matches the Occupational Safety and Health Administration limit, and enables the creation of 1,000 sq. foot structures in under 20 hours.



Already, such benefits have seen Black Buffalo 3D selected to supply large-scale housing projects, such as Alquist 3D's plans to 3D print 200 homes. The buildings are being constructed to meet the needs of the growing workforce in Pulaski, a city in Virginia's New River Valley, which is one of the fastest-growing regions in the US when it comes to tech jobs.

### **Xerox leans further into AM?**

Previously known as Xerox Financial Services (XFS), FITTLE is essentially a financing arm of Xerox that's dedicated to helping back any company seeking to procure equipment. The business' funding isn't just aimed towards those working in construction, and its offerings are designed to support partners in the acquisition of everything from IT Services, software and audio visual gear, to security hardware.

As well as equipment leasing and financing programs, FITTLE also offers partner leasing, deal channel programs and support services, but its partnership with Black Buffalo 3D is set to focus mainly on the former. Through what FITTLE terms "expansive financing offerings," the companies aim to make NEXCON 3D printers as easily adoptable as possible to those seeking out new construction technologies.

"As a global provider of innovative business financing solutions, FITTLE is well-positioned to support Black Buffalo 3D's growth during this transformative time for the company," said Nicole Torracco, President of FITTLE. "We look forward to executing a strong and sustainable partnership as the company continues to disrupt the construction industry."

The move also signals a deepening of Xerox's ties to the 3D printing industry. While it has traditionally traded in 2D rather than 3D printing, Xerox unveiled a roadmap to "participate" in 3D printing back in 2018. In the following months, Xerox acquired Vader Systems, a liquid metal jet 3D printer manufacturer, before making its Formnext debut in 2019.

Since then, Xerox has scrapped plans to buy HP, instead investing in the launch of its debut 3D printer, the ElemX. Over the last 18 months, the **Naval Postgraduate School** has acquired an ElemX for R&D, while Vertex Manufacturing has installed a Xerox 3D printer for industrial production purposes. However, through its FITTLE arm, Xerox now appears to be expanding its 3D printing interests in a new direction.

### **Investing in concrete 3D printing**

Though the technology hasn't quite disrupted the construction sector just yet, it's potential to do so has begun to attract a significant investment in concrete 3D printing firms. During May 2022, GE's wind turbine manufacturing arm, GE Renewable Energy, invested in COBOD, in a deal that's said to have provided it with greater access to the firm's machines.

On a larger scale, ICON raised another \$185 million in February 2022, in a deal that saw its valuation top the \$2 billion mark. The firm has previously pledged to use any funding raised to scale its capacity and grow its team of engineers, architects and operational leaders, with the aim of "bringing housing and construction into the modern world."

Elsewhere, the US Department of Energy has issued a \$39 million construction 3D printing grant, designed to support the technology's development. Of the 18 projects to receive a share of this funding, those at Texas A&M University and the University of Pennsylvania are attempting to make particularly bold advances, with one developing a 'hemcrete' material and the other a carbon-absorbing floor.

[Xerox's FITTLE division to help Black Buffalo 3D bring concrete 3D printing technology to market - 3D Printing Industry](#)

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## Finding Sanctuary: More Politics in Effort to Save the Monterey Bay

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In my last column I described the proposal by Cecil Andrus, Interior Secretary for President Jimmy Carter, for offshore oil drilling in the late 1970s. My friend, the late Jim Rote, alerted me to the proposal and we went to work to galvanize opposition to Lease Sale 53, which galvanized our communities in central California. Jimmy Carter withdrew the proposal. We won, but not for long: Ronald Reagan defeated Jimmy Carter in 1980.

Rote pointed out that the federal government had other tools in their ocean toolbox, specifically a process to create a national marine sanctuary. We immediately wanted one. There were only two ways in law to create one — either by nomination from the Department of Commerce, the home of the National Oceanographic and Atmospheric Administration, or by Congressional action.

We still were in the midst of the energy crisis. The avenue of using NOAA, an agency who reported through the Department of Commerce to President Regan, to create a new sanctuary wasn't likely to happen. However, our tripartite form of government gave us another avenue, congressional action. We had then Rep. Leon Panetta. Still, this wasn't going to be an easy avenue. It was not likely a majority of votes could be obtained to enact a bill creating a sanctuary to protect the bay from oil drilling during the national energy crisis.

So, how do you get this through Congress when you couldn't get the majority in support? By finding a "must pass" bill and adding a small amendment. The bill that was used was the legislation to bail out Florida from federally declared disaster of Hurricane Andrew, a "must pass" bill. My friend, Leon Panetta, will tell this story in a future column.

Lobbying around the creation of the sanctuary was intense. Panetta asked State Sen. Henry Mello and me to mobilize local and state support. I found semantics played a role in getting the support of local commercial fishermen. Their response was a strong negative. The concept of "sanctuary" meant something quite different to them, than it did to me. In the church, the area around the altar is considered a sanctuary, a haven, or a place that is protected. It took time and building trust to explain that a "marine sanctuary" would not impact their fishing practices. In the end, we had everyone one in support and created the largest National Marine Sanctuary in the continental United States. However, to this day, many commercial fishermen are still cautious about sanctuary management.

### Politics after the sanctuary

In 1998, it was the international Year of the Oceans and also midterm elections. I had been pushing the White House to sponsor a White House conference on the oceans to coincide with the Year of the Oceans. The first reaction by the White House was that it was a good idea, and that perhaps the under secretary of the Navy could keynote the conference in Washington. However, then Sen. Barbara Boxer, who was close to the Clintons, suggested the president ought to keynote the conference and it ought to be in my district in California as both of us were on the ballot and we deserved to get credit for our important work.

Locally, every marine science lab and the **Naval Postgraduate School (NPS)** wanted the president to visit. I reminded them that just coming here will put Monterey Bay Science Institutions on the map. We can claim the Marine Science Capitol if we all pull together. This organizing effort, led by Lora Lee Martin at UC Santa Cruz, gave birth to the Monterey Bay Crescent Ocean Research Consortium. The consortium eventually grew to include more than 20 institutions of higher education and research around the Monterey Bay Crescent. This organization still exists today.

The first National Ocean Conference attracted the largest turnout of White House officials that I had ever seen. It included President Bill Clinton and the first lady Hilary Clinton, but also Vice President Al Gore, three department secretaries and more than half a dozen members of Congress. (I had never experienced such an esteemed turn out for any other event). We also had world famous marine scientist Sylvia Earle in attendance.

Elementary schools throughout the region sent students, some who had never seen the ocean. The Clintons signed posters that the students had drawn, and the aquarium gave the students special tours. The Naval Post Graduate School hosted academic work shops. The ocean conference was a great success and gave much more understanding of the importance of National Marine Sanctuaries.



Following the Year of the Oceans, a lot of attention was placed on developing stronger ocean management recommendations. The Pew Charitable Trust established a nonprofit commission to recommend management tools. Locally, Panetta and Julie Packard were appointed along with former Republican New Jersey governor and later EPA Administer, Christine Todd Whitman. At the same time, I authored a joint resolution creating a federal commission to get the support of Congress and the White House. It passed. President George W. Bush appointed the commission. He placed a Texas oil executive on the commission along with retired Adm. James Watkins who had been chief naval officer of the Navy and in his father's, President George H.W. Bush's, cabinet.

Both commissions made strong recommendations and submitted their recommendations about the same time. I put them in a bill to establish the National Policy for Ocean Management. We called it "Oceans 21." The goal for all federal agencies examining their jurisdiction was to "do no harm" to the ocean. Despite the bill having several prominent Republican co-sponsors, the Republican controlled House wouldn't give the bill a hearing. Even with Watkins yearlong effort to get Congress and the White House to pay attention to the work of both important Commissions. No luck.

Sam Farr is a member of the Monterey Bay National Marine Sanctuary Foundation Board of Directors. He served on the Monterey County Board of Supervisors, the California State Assembly, and represented the central California Coast in the US House of Representatives. He also served as a Peace Corps volunteer in Colombia as a young man. He lives in Carmel with his wife, Shary. For more on the sanctuary's 30th anniversary, go to [montereybayfoundation.org](http://montereybayfoundation.org).

[Finding sanctuary: More politics in effort to save the Monterey bay – Santa Cruz Sentinel](#)

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## FACULTY:

### What We Have Learned So Far

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China's live fire drills around Taiwan — with ships circling the democratically-ruled island — have offered an unprecedented glimpse into how Beijing could mount a military campaign against its neighbor.

Beijing has also imposed economic sanctions and ramped up efforts to isolate Taiwan on the international stage, a move experts say will permanently change the status quo across the Taiwan Strait.

AFP examines what we have learned from China's biggest-ever military drill around Taiwan, conducted in retaliation for US House Speaker Nancy Pelosi's visit to the self-governing island this week.

### Could China impose a blockade on Taiwan?

The Chinese military has conducted exercises on Taiwan's eastern flank for the first time, a strategically important area for resupplying the island's forces — as well as potential American reinforcements.

This has sent an ominous signal that Beijing may now blockade the entire island, preventing any entry or exit of commercial or military ships and aircraft.

Analysts have long speculated that this will be one of China's preferred strategies in the event of a war to conquer Taiwan.

"This crisis will signal that Beijing is able to repeat — and intensify — similar responses at will," said Christopher Twomey, a security researcher at the US **Naval Postgraduate School** in California.

"But maintaining (a blockade) would be very costly, both to China's reputation and in direct costs to its military."





China's current economic woes make it unlikely for now that it will risk a major disruption in the Strait of Taiwan – one of the world's busiest waterways.

### **Is the Chinese military ready for battle?**

China has rapidly expanded and modernized its air, space and naval forces to project its power globally and close the gap with the US military.

Beijing's military capabilities still lag behind Washington's, but it aims to be able to overcome any setback to retake Taiwan by 2027, according to the Pentagon.

These military drills around Taiwan have put the People's Liberation Army (PLA) Eastern Theater Command, which spearheaded the drills, to the test, said Collin Koh, a naval affairs expert at Singapore's S. Rajaratnam School of International Studies.

They have shown how far China's military reform has come since the last cross-strait crisis in 1995-96, demonstrating its "ability to pull in or command a wider range of capabilities," he said.

"At the very least, the tangible assets they've brought to the ground, as well as the ability to conduct an exercise of this scale, show they're much more capable than they were in the 1990s."

### **What has changed in China-Taiwan relations?**

Taiwan's 23 million residents have long lived with the possibility of invasion, but that threat has intensified under President Xi Jinping, China's most confident ruler in a generation.

China is now boycotting fruit and fish from Taiwan, hurting the island economically in a move analysts say is aimed at undermining major bloc support for the pro-independence government.

Beijing has imposed sanctions on companies donating to the Taiwanese government's development aid arm – putting an end to so-called "checkbook diplomacy" with allies.

But China will aim to keep its military and economic maneuvers below the threshold of war to avoid a direct confrontation with the US, analysts said.

"I think continued tensions are unlikely," Bonnie Glaser, director of the Asia program at US-based think tank German Marshall Fund, told AFP.

"But certainly a larger crisis would affect shipping, insurance rates, trade routes and (global) supply chains."

### **A new normal for Taiwan?**

Taiwan may have to get used to China holding similar military exercises in the future, Koh said.

"It will become the norm to conduct drills near the main island of Taiwan itself...this time it has set a new precedent for the PLA to conduct drills of this type."

"We look at raising the bar to another level for future exercises of this scale and intensity."

China has regularly sent warships or planes across the median line — an unofficial but once largely observed border that runs down the middle of the Taiwan Strait — during times of tension.

But Pelosi's visit has given them "the excuse or justification to say that going forward they will only lawfully conduct drills east of the centerline without even giving it due consideration," Koh said.

Where do Sino-US relations go from here?

China has said it will end cooperation with the United States on key issues such as climate change and defense.

Washington has called the move "fundamentally irresponsible" as relations between the two superpowers have plummeted over Taiwan.

Beijing separately announced that it would personally sanction Pelosi – the third in line for the US presidency – in response to her "vicious" and "provocative" actions.

Tian Shichen, a Beijing-based security analyst, told Chinese state-run publication Global Times that the disruption in communications had increased the risk of conflict, but blamed the US entirely.

"Currently, almost all communication channels between the Chinese and US military are cut off, increasing the possibility of misunderstandings and unexpected incidents, all of which are the responsibility of the US," he was quoted as saying.



“This is a moment in US-China relations where we are really at a very low point,” Glaser said in a discussion hosted by the Center for Strategic and International Studies in Washington DC.

“I hope both of our governments will find a way to talk about their ... red lines, their concerns and prevent a continued downward spiral in the relationship.

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[RTL Today - China drills: Taiwan crisis: what we've learned so far](#)  
[China raising risk of escalation by cutting links: US - Taipei Times](#)

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## Software Developers Aspire to Forecast Who Will Win a Battle

*(Economist 20 July 22)*

Warfare is complex—and, as those who start wars often discover to their chagrin, unpredictable. Anything which promises to reduce that unpredictability is thus likely to attract both interest and money. Add the ability of modern computers to absorb and crunch unprecedented amounts of data, and throw in a live, data-generating war in the form of the conflict now being slugged out between Ukraine and Russia, not to mention the high level of tension across the Taiwan Strait, and you might assume that the business of trying to forecast the outcomes of conflicts is going into overdrive. Which it is.

One piece of software dedicated to this end is the Major Combat Operations Statistical Model, mcosm, developed by engineers at the **Naval Postgraduate School (NPS)** in Monterey, California. mcosm runs algorithms based on data about 96 battles and military campaigns fought between the closing year of the first world war and the present day. When fed information about Russia’s initial push to seize Kyiv and subjugate Ukraine, which began on February 24th, the model predicted, on a scale of one to seven, “operational success” scores for the attacker and defender, respectively, of two and five.

That pretty much nailed it. On March 25th Russia’s forces gave up the idea of taking Kyiv and narrowed their objectives to Ukraine’s east and south, marking the end of what has come to be seen as phase one of the war. Nor was mcosm’s forecast a fluke. In the hands of knowledgeable users, says Jon Czarnecki, who created it, it gets seven out of ten forecasts broadly right.

### Crunch time

To run an mcosm forecast requires users to estimate 30 values. These cover things like the levels and expected importance, given the fight in question, of each belligerent’s training, firepower, mobility, logistics, reconnaissance, decision-making and ability to sequence and synchronise operations. Keen judgment is needed, for the value of such things is often unknown, or miscalculated, in advance.

The French army that collapsed in May 1940 was, for example, widely thought of beforehand as one of the finest in Europe, just as Russia’s armed forces were thought to have undergone thorough reform since 2008. Nevertheless, Dr Czarnecki, who was a colonel in America’s army before he joined nps, assigned Russia a dismal value of “one” as its Decisions score. That turned out to reflect well the Kremlin’s overambitious attempt to imitate American shock-and-awe tactics by storming Kyiv rapidly from several directions.

[Software developers aspire to forecast who will win a battle | The Economist](#)

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## Russia Looms Large Behind OPEC+ Hike Decision

(*Nikkei Asia* 6 Aug 22) ... Nesreen Bakheit

OPEC+ blamed capacity constraints for a meager oil output increase in response to pleas from U.S. President Joe Biden to open the taps wider, but experts are citing another reason for the stinginess: Russia.

OPEC+ groups members of the powerful Organization of the Petroleum Exporting Countries (OPEC) with other producers, including Moscow. It announced on Wednesday an output hike of just 100,000 barrels a day to start next month. The need to prudently use "severely limited" extra volume to guard against potential supply disruptions was the official reason.

But observers do not entirely buy it.

"Remaining official spare capacity is consolidated in Saudi Arabia, UAE, Iraq, and Kuwait," Helima Croft, chief strategist at RBC Capital Markets, said in a note shared with *Nikkei Asia*. "There may be reluctance to unwind spare capacity too soon with uncertainty around how Europe's Russian sanctions package will affect global supply."

OPEC has traditionally adjusted production capacity in line with trends in the global economy surrounding supply and demand. While it can't completely control prices, it has an interest in doing all it can to ensure they don't fall too far too fast.

The European Union said in May it will block the majority of Russian oil imports by the end of this year in response to the country's invasion of Ukraine. The move is part of the bloc's sixth round of sanctions against Moscow.

Faced with sanctions and reluctant buyers in its usual markets, Russia has been forced to sell its oil at steeply reduced rates to buyers in India, China and elsewhere. The country's flagship Urals export grade crude has been trading at a significant discount compared to benchmark Brent since the February invasion. Moscow, therefore, is determined to keep global prices as elevated as possible, to avoid having to slash its prices further.

"With its crude and refined product exports crimped by Western sanctions and its barrels already going at steep discounts compared with what they would have fetched before the invasion, Russia has good reason to want benchmark oil prices to be higher rather than lower," Vandana Hari, founder and CEO of oil market analyst Vanda Insights, told *Nikkei*. Hari argues Moscow needs oil revenue to fund its war and higher oil prices can help offset any reduction in export volumes.

More expensive crude could also work in Russia's favor in another way.

"The burden of persistent high oil prices amid decades-high inflation has made the European Union and [Group of Seven nations] cautious about imposing incremental restrictions on Russian exports, which suits Russia," she said. "We have even seen some backpedaling by the EU on earlier sanctions."

Brenda Shaffer, an energy expert at the U.S. **Naval Postgraduate School**, shares a similar view.

"The high oil price not only gives Russia high revenue, but also leverage in the current Ukraine crisis, by putting economic pressure on the West to back down from further sanctions and limits on its export[s]," Shaffer told *Nikkei*. "Up until ... the current recession starts to lower demand for oil, there is trepidation in the West to further remove Russian oil from the market."

Russia, though not a member of OPEC, has coordinated closely with the group since 2016 and producers in the Middle East value its cooperation, which gives Moscow considerable influence. The cooperative relations also provide the country with some respite politically from the pressures it faces from the West.

"If the production capacity of OPEC+ increases without taking into account the interests of the members, the Russian economy will suffer more, because it will have to give more discounts to customers for the sale of oil," said Umud Shokri, a foreign policy adviser



and energy strategist at Washington-based Gulf State Analytics, a geopolitical risk consultancy. "The interests of Russia and Saudi Arabia in the energy market are currently aligned, and this gives OPEC+ the upper hand in the energy market."

<https://asia.nikkei.com/Business/Markets/Commodities/Russia-looms-large-behind-OPEC-output-hike-decision>

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## ALUMNI:

### **Rear Adm. Mike Studeman Named Office of Naval Intelligence Commander, NMIO Director**

*(Exec Gov 2 Aug 22)* ... Naomi Cooper

U.S. Navy Rear Adm. Mike Studeman assumed leadership of the Office of Naval Intelligence and the National Maritime Intelligence-Integration Office during a ceremony held at the National Maritime Intelligence Center in Suitland, Maryland.

Studeman, formerly director for intelligence at U.S. Indo-Pacific Command in Honolulu, Hawaii, succeeds Rear Adm. Curt Copley, who has served as the commander of ONI and director of NMIO since June 2021, the Navy reported Monday.

Studeman is a distinguished graduate of the **Naval Postgraduate School** and previously held intelligence leadership positions in support of Operations Desert Shield and Desert Storm and Operation Enduring Freedom deployments.

He also led the intelligence directorate of U.S. Southern Command in Miami, Florida.

In his new position, he will oversee the integration and sharing of maritime information across the U.S. intelligence community.

[Rear Adm. Mike Studeman Named Office of Naval Intelligence Commander, NMIO Director \(executivegov.com\)](#)

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### **Seeing Clearly: The Need To Fund ENVG-B**

*(Real Clear Defense 4 Aug 22)* ... Paul Ostrowski

Night vision devices are critical to delivering overmatch on modern battlefields. The Army has recently developed two overlapping but distinct systems to deliver situational awareness in everything from close combat to combat support operations, enabling uninterrupted operations in multi-domain battlespaces devoid of clearly established front lines. As these devices serve distinct purposes and represent differing levels of maturity, the Army should continue with its strategy to procure both the Enhanced Night Vision Goggle-Binocular (ENVG-B) and the Integrated Visual Augmentation System (IVAS).

Anyone familiar with historical or existing night vision and situational awareness systems would recognize ENVG-B, a digital thermal sensor fused with binocular image intensification (I2) capabilities. The ENVG-B system provides Soldiers with vision in no- and low-light environments. However, ENVG-B goes beyond legacy night vision systems when paired with Nett Warrior by including augmented reality heads-up display capabilities, meeting the Army's requirements for a fused night vision capability with enhanced situational awareness. Also, when wirelessly paired with a thermal sight, the Family of Weapon Sights – Individual, the ENVG-B enables Soldiers to experience a digital reticle and deliver rounds on target without exposure to enemy fire. Since its initial deployment almost three years ago, ENVG-B has proven its ability to meet Army requirements in both training and combat.



The success of ENVG-B stems from a deliberate and incremental evolutionary process, incorporating Soldier feedback iteratively into both its requirements and development. The result is a suite of capabilities that was all but unimaginable a decade ago.

By contrast, IVAS is an aggressive effort to bring next-gen capabilities into the present. Since being presented to then-Secretary of Defense James Mattis in 2018 as a glimpse of what the warfighters of the future could be wearing, IVAS has had an accelerated development and deployment timetable. Working hand in hand, teams from the government and industry (especially Microsoft) have been identifying and attempting to overcome a litany of obstacles to IVAS deployment. These include, but are by no means limited to, incorporating digital I2 technologies in lieu of existing analog I2 capabilities, doubling the field of view from traditional binocular capabilities, and incorporating situational awareness data and other sensors into a digestible format. None of these challenges are trivial; addressing all of them is a time-consuming exercise.

IVAS therefore is moving from the “leap-ahead” model that gave it birth to more of an iterative design-and-feedback process. The IVAS team is already incorporating the lessons learned from recent tests performed by Soldiers in controlled environments (Soldier Touchpoints). These tests revealed serious shortcomings with the system, including problems with GPS accuracy, latency, and comfort. Based on these evaluations, IVAS delayed its Initial Operational Test & Evaluation from July 2021 to May 2022, and results are still pending.

These difficulties have given rise to reasonable concerns about the program, which is understandable in view of IVAS’s recent struggles; however, there is another way to view the two programs. ENVG-B and IVAS should not be considered rivals for funding. Rather, ENVG-B is the current state-of-the-art connected night vision system while IVAS continues to develop toward a command-and-control system with training and rehearsal capabilities. Even once IVAS starts reaching frontline units, the two systems can interact in complementary ways to multiply force effectiveness. As Soldiers at the touchpoints remarked, “not all personnel in close-combat formations should be equipped with IVAS” and “equipping select Soldiers with [non-IVAS] equipment could make the formations more effective.” Beyond that, the idea has never been to equip every Soldier in the Army with IVAS, and there will always be formations with a need for upgraded night vision capability, such as that provided by ENVG-B.

Congress should therefore allow the Army to continue with the dual-prong strategy of maintaining the procurement of ENVG-B while pursuing further development of IVAS. Rather than treating the two programs as zero-sum competitors, it should be recognized that ENVG-B helps the Army meet the readiness challenges of today while remaining sustainable into the future, if properly scaled for wide deployment. Meanwhile, IVAS should continue incrementally developing towards being the first-choice, game-changing system of the future.

The U.S. military is better at looking into the dark than any other military on earth. By focusing its efforts on both ENVG-B and IVAS, it gives itself the best chance of looking into the future as well.

Paul is a graduate of the United States Military Academy at West Point, and has earned a Master of Science in Systems Acquisition Management from the **Naval Postgraduate School**, and a Master of Science in National Resource Strategy from the Industrial College of the Armed Forces/Eisenhower School in Washington D.C.

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## USS Anchorage Changes Command

*(DVIDS 1 Aug 22)* ... LTJG Eileen Brady

Capt. Daniel Keeler relieved Capt. Pete Riebe as commanding officer of USS Anchorage (LPD 23) during a change of command ceremony, August 1.

Riebe assumed command Anchorage in May 2021, and is transferring to Commander, Naval Air Forces where he will be considered for Aircraft Carrier command.



As Anchorage's commanding officer, Riebe ensured a seamless transition from the ship's basic phase of training through the advanced phase while readying the crew for the integrated phase and deployment. During his tenure he ensured the health of the crew throughout the COVID-19 pandemic and rebuilt basic shipboard practices that were put on hold while maintaining social distancing. He drove home the point that every person on board plays a critical role on Anchorage by establishing high standards for cleanliness, personal accountability, and reporting.

Riebe also led the first waterborne launch and recovery of the U.S. Marine Corps' new Amphibious Combat Vehicles (ACV), subsequently Anchorage became the first ship to certify ACVs for amphibious operations while supporting the Marine Corps' return to wet-well operations.

"Leading the crew of USS Anchorage has been both challenging and fulfilling," said Riebe. "For an officer that has been focused on naval aviation nearly my whole career, leading an amphibious ship at sea has challenged me professionally as I've learned new mission sets and integrated with our Marine Corps brothers and sisters. Watching this team come together and complete complex mission sets and bringing USMC combat power ashore has been awe-inspiring. I'm humbled to have had the opportunity to lead this incredible group of men and women."

Keeler graduated with merit from the United States Naval Academy in 1998 with a degree in Political Science. He received his master's degree in Business Administration from the **Naval Postgraduate School** in 2006 and completed Naval Nuclear Power training in 2019. Most recently he served as the Executive Officer aboard USS Theodore Roosevelt (CVN-71).

"I am honored and thankful for the opportunity to be the Commanding Officer of USS Anchorage," said Keeler. "This is a great ship with an outstanding crew and stellar reputation. I look forward to working with our Marine Corps partners and doing great things together on the upcoming deployment."

Anchorage is currently homeported in San Diego and is part of Amphibious Squadron SEVEN, along with USS John P. Murtha (LPD 26) and USS Makin Island (LHD 8).

[DVIDS - News - USS Anchorage Changes Command \(dvidshub.net\)](https://dvidshub.net/news/uss-anchorage-changes-command)

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## **Navy Reserve Region Readiness and Mobilization Command Fort Worth Holds Change of Command, Retirement Ceremony**

(DVIDS 5 Aug 22) ... Petty Officer 1<sup>st</sup> Class Lawrence Davis

Commander, Navy Reserve Region Readiness and Mobilization Command Fort Worth (REDCOM FW) held a change of command and retirement ceremony, Aug. 5, onboard Naval Air Station Joint Reserve Base Fort Worth.

Capt. Albert C. Seeman assumed command of REDCOM FW, responsible for the mobilization readiness of more than 7,300 Reserve Sailors across seven states, from Capt. Mark A. Hofmann, who officially retired after more than 30 years of honorable service as a naval officer and aviator.

Hofmann led REDCOM FW, its 19 Navy Reserve Centers (NRC), and 320 Reserve units, comprising a total of 7,812 Training and Administration of the Reserve (TAR), Selected Reserve, and civilian personnel from August 2020 to August 2022. As the REDCOM FW Commander, Hofmann increased overall Navy mobilization capacity and redundancy, mitigating risk to service and nation during a time of heightened geostrategic competition. More than 721 of the Region's Reserve Sailors mobilized under his command in support of operational commanders worldwide.

"To each of my skippers: I gave you all general principles. I didn't give you a detailed checklist on how to do your jobs. And, you have built at your commands, the kind of cultures I expected you to build. You've built cultures that both ensured we got the mission done, but also unlocked potential in our people. It gave them the opportunity to grow. We were able to do that because of all of your great leadership. So, thank you all so much," said Hofmann.



Rear Adm. Micheal Steffen, Commander, Navy Reserve Forces Command, who served as the presiding officer for the ceremony expressed his gratitude to the families in attendance, and the Sailors of REDCOM FW.

“Thanks so much to the Hofmann and Seeman families, and thanks to the REDCOM Fort Worth and NRC staffs for all you do in support of the mission. It really is a team effort,” said Steffen.

“Mark and I have known each other for a while,” Steffen continued. “You’re getting ready to ride off into the sunset and you’ve had such an impressive career. You started off at Penn State. You flew helicopters in Guam, then transitioned to fixed-wing, and then into leadership roles, commanding two NRCs. Then out to EUCOM [United States European Command] where you served two overseas tours, and you did an Iraq IA [Individual Augmentee]. It says a lot about you and your character, to go through all of that, to remain positive, and do the best that you absolutely can, which I know you did throughout your career. So, from the bottom of my heart, I appreciate you for all of your hard work and dedication to the Navy and our Nation throughout your long and distinguished career.”

Hofmann thanked Steffen and all in attendance during his remarks. He also took the opportunity to recognize and give special thanks to retired Command Master Chief Darrin Lowe, who served alongside him in leading the REDCOM FW Region.

“For those of you who are not from Texas, one of the worst things you can say about someone here is ‘he’s all hat and no cattle.’ What that means is that it’s all appearances, there’s no substance. But, this guy is the absolute best illustration of ‘all cattle and no hat.’ In fact, he’s so no hat, that he left here recently without a ceremony and without drawing any attention to himself because that’s just not who he is. But, that concluded 29 years of service, four command master chief tours including two region tours, and one ship underway tour. That is pretty amazing service, and it deserves to be recognized. So, to Darrin, I appreciate your service and I appreciate what you did for this Navy and this Nation for 29 years,” said Hofmann.

After the official reading of orders, Steffen and all others in attendance welcomed the new REDCOM FW commander, Capt. Seeman, who had his own message to Hofmann and those in attendance.

“Mark, congratulations on a very successful tour. You’ve done a fantastic job with the staff here, and I couldn’t ask for a better turnover,” said Seeman. “Region commanding officers and REDCOM staff, thank you for the warm welcome. I’m looking forward to working with all of you and tackling these challenges that lie ahead of us. It’s a great time to be a part of the Navy Reserve and I’m truly blessed to be entrusted here with you all.”

Seeman, is a native of Baltimore, Maryland. Upon graduation from the United States Naval Academy in 1997, he accepted a commission as a surface warfare officer and attended division officer school in Newport, Rhode Island. After several initial sea tours, Seeman earned a Master of Science degree in Information Systems Management from the **Naval Postgraduate School** in Monterey, CA and a Master of Arts degree in National Security and Strategic Studies from the Naval War College.

[DVIDS - News - Navy Reserve Region Readiness and Mobilization Command Fort Worth Holds Change of Command, Retirement Ceremony \(dvidshub.net\)](#)

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