



Unified Pacific Wargame Series 2022

Unclassified Overview



SEPTEMBER 2022

United States Army Pacific

A comprehensive report outlining UPWS 22 methodology, assumptions, gameplay narratives and outcomes. Detailed insights and support data is available at the Top Secret level.





FOREWORD

Sponsored by the Chief of Staff of the Army, UNIFIED PACIFIC is the **U.S. Army's contribution to the Joint Campaign of Learning** in the most consequential theater, against the most consequential threat, at the most consequential time in our Nation's history.

The UNIFIED PACIFIC Wargame Series looks at Army capabilities and posture. It builds on and informs analytic efforts, including the Joint Staff's Globally Integrated Wargame, the U.S. Navy's GLOBAL series, and Army Futures Command's Indo-Pacific Threat Based Assessment. It offers new insights that:

- Support Joint and Service Concept Development
- Inform New and Emerging Capability Experimentation and Testing
- Expand options available to the Joint Force Commander across the continuum of Campaigning, Crisis, and Conflict



USARPAC will execute UNIFIED PACIFIC annually in close coordination with our U.S. Pacific Fleet teammates and the U.S. Army Center for Army Analysis. We will continue to build on what UPWS achieved in FY22. While DoD wargames share common scenarios, participants, and data sources, they are not often integrated with one another across time. In FY22, we linked UPWS with PACFLT's long-standing GLOBAL wargame. This represented a new approach that nests with USINDOPACOM Commander and Secretary of the Army guidance to experiment with new ways of operating and provides new analytics to inform tough choices.


Continued linkage of GLOBAL and UNIFIED PACIFIC enables deeper accelerated Joint Learning across the Joint community. It also supports the Joint Campaign of Learning by providing **analytics and insights that support the Joint Force Commander's priorities and planning** as it:

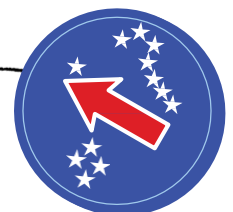
- Studies the People's Republic of China's rapidly **evolving capabilities**, our own **service interdependencies** among U.S. service components, and our **roles** alongside Allies and Partners in Campaigning, Crisis, and Conflict
- **Enhances our understanding of the Operational Environment** in the DoD's priority theater against the pacing threat
- **Informs joint campaigning**, investments, concept development, and posture
- **Informs Army Force Design and Force Development activities** – including experimentation and testing – to provide Army forces with theater-tailored capabilities at time and place of need

Efforts like UPWS inform U.S. Army investments and enable USARPAC to tailor its efforts to increase joint warfighting advantages, build capacity and confidence in our Allies & Partners, and deny key terrain to adversaries in the **most consequential theater at the most consequential time for our Nation**.

I look forward to UNIFIED PACIFIC 23, as USARPAC hosts two wargames. The first will examine **Intelligence Support to Joint Targeting**. The second will examine how we provide **Joint Theater Logistics** at scale and speed. We will continue our Joint Campaign of Learning – with urgency – to ensure the Army and the Joint Force are best postured to defend our Nation, protect our people, and underwrite America's commitment to a 'Free and Open Indo-Pacific' – now and in the future.

ONE TEAM!


General Charles Flynn
Commanding General
U.S. Army Pacific





UNIFIED PACIFIC WARGAME SERIES 2022 | OVERVIEW

UNIFIED PACIFIC 2022 was a USARPAC-led, Army Chief of Staff-sponsored series of **three analytic events** that drew on subject matter expertise across the Army enterprise, U.S. Indo-Pacific Command (USINDOPACOM) and its Service Components, Office of the Secretary of Defense (OSD), and the Department of State (DOS). UPWS was played at the Top Secret / Sensitive Compartmented Information-level and Special Access Program/Special Technical Operations-informed. Objectives for each event were.

UPWS Objectives

Event 1: Maneuver in Competition

- **Enhance Indications & Warnings, reduce strategic deployment timelines, and improve resilient sustainment** in crisis and conflict
- Enable the Joint Force Commander to **extend and expand the scope and scale** of Combined and Joint All-Domain Operations

Event 2: Fight Beyond First Engagements

- **Expand on learning** from the U.S. Navy's GLOBAL wargaming series
- **Evaluate operational concepts** if first engagements prove indecisive
- **Identify emergent risks and opportunities** if a theater warfight begins to protract

Event 3: Fight in Conflict

- Assess the **Joint Force's operational capability to project land forces** forward in contested environments
- Evaluate the effect of **theater posture and force design on Joint Operations**
- Advance understanding of integrating **landpower in Joint Operations** during conflict in the Indo-Pacific

Event 1 (January 2022) "**Maneuver in Competition**" was a facilitated structured discussion that evaluated candidate Operations, Activities, and Investments (OAI)s. 76 action officers represented theater-focused Combatant Command, Service Component, Operational Army, and Institutional Army perspectives in assessing and discussing, **providing key insights** into:

- Plausible Ally, Partner, and adversary reactions
- Opportunities for Joint, Interagency, and Combined integration
- Potential risks, tradeoffs, and opportunities in future budget environments



Event 2 (April 2022) “**Fight Beyond First Engagements**” used the U.S. Army Center for Army Analysis Accelerated Wargaming System (CAAAWS) and data from the U.S. Navy’s GLOBAL series game to evaluate the **Joint Force’s operational endurance** and ability to fight beyond first engagements in a hypothetical scenario.

Participants explored two courses of action which addressed the operational problems presented. Event 2 involved over 200 participants from OSD, USINDOPACOM, the Army Enterprise, and its subordinate elements.

Event 3 (May 2022) “**Fight in Conflict**” – the UPWS 22 Capstone Event – also employed CAAAWS and examined protracted conflict. Similar to Event 2, Event 3 allowed for deeper in-game learning by exploring two possible courses of action. Over 250 people participated in the Event 3 wargame, including 46 General/Flag Officers and Senior Executive Service civilians from OSD, DoS, INDOPACOM, and its Component Commands, Headquarters, Department of the Army (HQDA), and the broader Army Enterprise.

Diverging from Event 2, Event 3 added a second track. Beyond the simulated warfighting scenario, Event 3 also featured a **Senior Leader discussion track** that considered three themes:

- **Joint and Combined Interoperability**
- **Operational Endurance**
- **Integrated Deterrence through Joint Campaigning**

In Events 2 and 3, CAAAWS enabled high-fidelity wargames using an **Action-Reaction-Counteraction format** between live Blue and Red teams. Employing a computer-assisted, comprehensive ruleset, CAAAWS **advanced the Joint Force’s future operational-level wargaming capability**. For example, it allowed Red and Blue commanders to play SAP/STO informed capabilities (including space, cyber, electromagnetic spectrum, and munitions) that were integrated into the game’s rulesets at the TS/SCI level.

Department of Defense wargames must weigh the benefits of higher classified fidelity against the costs of wider participation and dissemination of insights.

To address this balance, the Center for Army Analysis integrated generalized, pre-adjudicated compartmented capabilities, establishing a repeatable methodology for future Joint Wargames.





UNIFIED PACIFIC | INSIGHTS

UNIFIED PACIFIC 22 identified critical gaps and potential solutions to inform future planning, concepts, and OAI. It also illuminated **new and enduring questions for the Joint Force**. This unclassified report presents questions and recommendations for further action by the Joint Community focused on **seven themes**:

<p>Insight 1 Countering Mass and Interior Lines</p>	<ul style="list-style-type: none"> ▪ Joint efforts must address PRC’s mass and interior lines. Without degrading these advantages, joint operational concepts/solutions will <u>likely fail to deny PRC military aims</u> ▪ The Joint Force may counter this advantage by establishing Joint Force Interior Lines
<p>Insight 2 Joint Interoperability and Converging Effects</p>	<ul style="list-style-type: none"> ▪ Pulsed operations require high degrees of joint interoperability – human, technical, and procedural – which are often assumed as a ‘given’ ▪ Key inter-service proficiencies pose risk to force/mission if not exercised/assessed at scale
<p>Insight 3 Intelligence Support and Joint Targeting</p>	<ul style="list-style-type: none"> ▪ Joint collection & targeting rely on timely PED of joint collection across the space, aerial, and terrestrial layers to enable joint kill webs to prosecute targets with discrimination at speed ▪ Joint collection & targeting must become target-centric and platform/echelon/sensor-agnostic ▪ Speed also relies on authorities and procedures – which can be optimized and rehearsed – to leverage the advantages of distributed lethality ▪ High-demand, low-density munitions can reduce joint operational endurance, requiring balance between desired “first battles’ operational tempo” & requirements of conflict’s last battle
<p>Insight 4 Joint Theater Logistics and Sustainment</p>	<ul style="list-style-type: none"> ▪ GLOBAL-UNIFIED PACIFIC pairing provided new perspective on logistical issues that compound over time – and highlighted a lack of practical clarity regarding how the Joint Force will execute joint logistics in support of new service concepts in the Indo-Pacific ▪ Joint contested logistics is a key determinant of joint operational endurance – and an attractive target to adversaries. It relies on <u>capacity, resilience, and agility</u> to avoid early culmination – and must be <u>distributed, mobile, hardened, and defended</u> to survive ▪ Sustainment networks in place prior to conflict generate joint operational endurance
<p>Insight 5 Joint Protection and Survivability</p>	<ul style="list-style-type: none"> ▪ Joint Force increases survivability and speed of reconstitution through organic mobility and employment of active and passive defensive measures. However, distribution requires balance between its operational value and the added requirements it generates ▪ Positioning protection assets forward pre-conflict enables: robust/layered <u>protection, force flow, sustainment, force projection</u> – and reduces strategic lift requirements. Ground forces’ advantages in mobility and dispersal further complicate adversary targeting
<p>Insight 6 Allies and Partners</p>	<ul style="list-style-type: none"> ▪ Beyond ‘access, basing, and overflight,’ Allies and Partners bring critical capabilities to warfighting that can improve Joint Force operational endurance – and is developed through joint campaigning ▪ A country’s Will to Prepare is critical and preparatory actions can present costly dilemmas to adversaries
<p>Insight 7 Integrated Deterrence and Joint Campaigning</p>	<ul style="list-style-type: none"> ▪ Posture enhances Indications & Warnings ▪ In deterring, individual service component OAIs are ineffective unless linked to combined/joint OAIs ▪ Key Army OAI contributions that support Joint Force maneuver, fires, protection, and sustainment <ul style="list-style-type: none"> ➢ Operation Pathways ➢ Rotational MDTF employments ➢ Persistent deep-sensing networks through Picketline-Pacific ➢ Increased sustainment posture and resiliency



Insight 1 | Countering Mass and Interior Lines

Mass and Interior Lines enable the PRC to rapidly concentrate forces, maintain dense collection and protection networks, and reconstitute across all domains in its near-abroad, particularly within the First Island Chain. PRC mass is a dense operational challenge: the PLA has the world's largest navy, third largest aviation force, and combined fires, airpower, and naval assets with increasingly longer ranges and accuracy.ⁱ The PRC further leverages civilian assets, infrastructure, and organizations to thicken its interior lines – an advantage of short geographic distances in its near abroad. **Moreover, interior lines predominantly reside under dense air defense networks.**

Compared to the PRC's shorter lines of communication and immediate access to airfields and ports for force projection, **the U.S. faces a '6,000 mile wet gap crossing'** and a largely 'away game' across campaigning, crisis, and conflict.ⁱⁱ The Joint Force operates on exterior lines – from Japan to Australia – leaving it vulnerable to interdiction and isolation across the theater. The PRC's centralized force projection allows for rapid reinforcement across multiple theater commands along heavily defended interior lines.

Future study, planning, and wargaming must address the PRC's mass and interior lines. Without degrading these advantages, **joint operational concepts and solutions will likely fail to deny the PRC its military aims.** The Joint Force may counter this advantage by establishing its own interior lines through robust forward posture – including through Operation Pathways – that support operations within the First Island Chain.

THE JOINT FORCE IS OUT OF POSITION

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Insight 2 | Achieving Joint Interoperability & Converging Effects

UPWS 22 wargames evaluated an array of operational concepts, including the ability to create temporary holes in an adversary's anti-access, area denial (A2/AD) layers. The wargames showed that **synchronized pulses of converged joint capabilities in time and space can achieve targeted operational impacts** – by providing pockets of superiority across the air, ground, and maritime domains over the course of a campaign – **while slowing friendly attrition rates.** However, these pulses required **high degrees of human, technical, and procedural interoperability to synchronize joint action across domains** and generate effects over different timelines and ranges.ⁱⁱⁱ



Joint interoperability is often assumed as a ‘given’ in planning, tabletop exercises, and wargames. However:

- Key inter-service proficiencies are **neither exercised nor assessed at scale** today
- The PRC will employ its concepts of **‘systems confrontation’ and ‘systems destruction warfare’ to separate the Joint Force** in conflict ^{iv}
- The Joint Force lacks full understanding of **risk to force and mission** if assumed interoperability levels are not realized

Execution of Joint All-Domain Operations that capitalize on temporary effects in a future warfight (including integration of kinetic and non-kinetic capabilities of the Multi-Domain Task Forces and Marine Littoral Regiment) **will require extensive wargaming, experimentation, and rehearsal.**^v

Human Interoperability

includes trust, common goals, and terminology

Technical

Interoperability includes

hardware, equipment, armaments, and systems

Procedural

Interoperability includes

process, methods, and techniques

Insight 3 | Enhancing Intelligence Support to Joint Targeting

Joint collection and targeting processes must become **target-centric and platform- echelon- and sensor-agnostic** to maximize kinetic effects against time-sensitive, high-value targets. Beyond efficiently discriminating high-value targets, joint targeting also must anticipate shifts in the adversary’s operational tempo and center of gravity as conflict evolves. **Timely processing, exploitation, and dissemination (PED) of the Joint Force’s theater intelligence collection will be critical to near-real time situational awareness** that enables the Joint Force to exploit the adversary’s operational shifts. A robust web of aerial, terrestrial (maritime and ground), and space sensors can thicken the Joint Force’s ability to see, sense, and understand the adversary and **enable joint kill webs to prosecute priority targets with discrimination at speed.**

Speed will rely on the ability to rapidly find, fix, track, and engage targets as well as **authorities and procedures to leverage the advantages distributed lethality offers.** Complex requirements, coordination, and authorities will likely compound as conflict develops. Alongside technology development, UPWS suggests that **joint targeting processes, structure, and authorities should be evaluated for optimization in high-intensity conflict – and rehearsed – in joint training and theater exercises.**

In targeting operations, leaders must also **identify mismatches between desired operational tempos of short-term ‘first battles’ and the magazine depth needed to win the last battle of a conflict.** Inadequate procurement and positioning of sufficient munitions in theater will constrain Joint Force options to deny an adversary’s military objectives.^{vi} **Approaches that rely on high-demand low-density munitions reduce joint operational endurance.** This is particularly true against a dense target set in a cluttered environment.^{vii}



Insight 4 | Bolstering Joint Theater Logistics and Sustainment

Wargaming often focuses on discrete battles in time and space and rarely examines a conflict in its entirety. **Pairing the GLOBAL and UNIFIED PACIFIC wargames provided a new, broader perspective of logistical issues that compound over time** – beyond validating the fact that the complexity of sustainment operations is compounded by the Indo-Pacific’s breadth and geometry.

UPWS 22 contributes to a growing enterprise consensus: there is a lack of practical clarity regarding how the Joint Force will execute joint logistics in support of new service concepts in an Indo-Pacific warfight.^{viii}

Emerging joint concepts require **the joint theater sustainment architecture to be mobile and distributed to be survivable. It must also be present prior to conflict to generate joint operational endurance.**

Joint contested logistics is a key determinant of Joint Force operational endurance. **Operational endurance rests not only on capacity, but also on robustness, resiliency, and agility to avoid early culmination.** Challenged by uniquely long distances from the continental United States and between theater sustainment nodes, **the joint theater logistics and sustainment network is an attractive target to the adversary** that can slow theater deployment activities and joint operational tempo. It requires robust forward presence that is distributed, hardened, and defended.



There is a lack of practical clarity regarding how the Joint Force will execute joint logistics in support of new service concepts in an Indo-Pacific Warfight

To further illuminate potential gaps and to exercise known solutions, the Joint Force can further conduct live rehearsals of operational-level sustainment and logistics during exercises. Operation Pathways offers opportunities at scale to rehearse and identify gaps in sustainment plans and capabilities that support large-scale joint operations. In 2023, UPWS 23 will use lessons and data from FY22 to conduct a deep-dive exercise into joint theater logistics requirements, gaps, and solutions.



Insight 5 | Increasing Joint Protection and Survivability

High attrition rates from the PRC’s magazine depth emphasize a requirement for robust joint theater protection. Theater protection of joint, allied, and partner capabilities faces compounding challenges that include: limited inventory of protection assets, constrained mobility, and underdeveloped joint doctrine. **The Joint Force can increase survivability and speed of reconstitution by employing active protection measures** (e.g. combined/joint integrated air and missile defenses) **and passive protection measures** (e.g. camouflage, concealment, and decoys). Ground forces further help complicate adversary targeting by leveraging comparative advantages in mobility and dispersal.

Forward positioning protection assets early will enable force flow, sustainment, and force projection in a fight. Advance forward placement of protection systems reduces strategic lift requirements early in crisis and allows for more robust and layered protection capability early in conflict. Mobility and distribution of both active and passive defensive measures provides protection as conflict progresses. Sustained, distributed lethality will complicate the adversary’s operational tempos and execution timelines. Distribution, however, comes at a cost. Extensive logistics, protection, and communication demands on the Joint Force requires **balancing the operational value of distribution against the added Joint, Ally, and Partner requirements** that distribution generates.

Insight 6 | Strengthening and Leveraging Allies and Partners

National Defense Strategy 2022 guidance emphasizes our imperative to “[work] seamlessly across... our unmatched network of Alliances and partnerships.”^{ix} Regional and global Allies, Partners, and like-minded countries represent a key U.S. strength. Through its three events,



UPWS 22 revealed important opportunities and constraints in both increasing interoperability and coordination with Allies and Partners as well as bolstering their own defensive capabilities. While access, basing, and overflight are extremely important, **they should not distract from also considering the critical capabilities that Allies and Partners can bring to both campaigning and warfighting in the region.** Host nation capabilities – including terrain preparation, materiel procurement, and development of interoperability, can improve the Joint Force’s operational endurance – but must be developed through day-to-day joint campaigning.^x

UPWS 22 participants described **combined interoperability as the “linchpin between the strength of Allies and Partners.”** Our Allies and Partners in the region offer not only important military capabilities that could reduce U.S. requirements, but also comparative advantages in certain relationships. Active integration of Ally and Partner capabilities would increase the range and efficacy of offensive and



defensive systems in crisis and conflict. Human interoperability through relationships and trust strengthens the sinews of these combined capabilities.

Whole-of-government tools to bolster U.S. and allied responses in conjunction with military operations will be essential to pursuing truly integrated deterrence approaches during campaigning. Such efforts could inform prioritization of requirements and improved likelihood of realized access, authorities, and other whole-of-government and combined enablers at time of need. It can help alleviate constraints and restraints on information sharing that can introduce challenges to coordination and common threat pictures, all while balancing operational security risk.

A country's future *Will to Fight* – a center of gravity in any conflict – is neither known nor easy to predict. Its *Will to Prepare* – a critical element of deterrence – provides more immediate insight that is indicated by actions, policies, and urgency toward establishing deeper defenses.

The ongoing Ukraine conflict reflected heavily on UPWS22 discussions, particularly its implications and applicability to the Indo-Pacific Theater. **Allies and Partners whose territorial integrity is at risk of PRC aggression must explore beyond conventional approaches to defense**, particularly given the advantages afforded by the PLA's mass. **The Ukraine conflict showcases how bolstering civil resistance capabilities, deepening defenses, and leveraging asymmetric capabilities such as unmanned aerial vehicles (UAVs) can present costly dilemmas to an adversary.** The 2022 Ukraine lessons, however, are not necessarily “plug-and-play,” with potential contingencies in the Indo-Pacific given differing geography and Allied and Partner interests, capabilities, and threat perceptions.

Insight 7 | Posturing for Deterrence & Joint Campaigning

UPWS 22 emphasized that Interagency, Joint, and Allied OAI synchronization, along with integration of reveal and/or conceal strategies, is necessary to maximize Joint campaigning impacts and mitigate unintended escalation. Synchronization can maximize the cost-effectiveness of resources while **presenting compelling and coherent deterrence signals to the adversary.**

During UPWS 22, “Red-lensing” and “Green-lensing” – led by DoD subject matter experts – **made it quickly become apparent that *individual* service component OAI neither deterred nor elicited favorable Joint Force outcomes unless linked to combined or joint OAI.**

UPWS 22 participants recognized that as the National Command Authority drives the whole of government approach to deterrence, **the military role is to provide flexible deterrent options – with the emphasis on *options*.** Additionally, the Joint Force should not treat campaigning and deterrence as synonyms. **Campaigning also encompasses supporting larger national diplomatic, information, and economic**



objectives through lower intensity capabilities that fill the space at the human level. Key contribution the Army can provide to the Joint Force's OAI portfolio include:

- **Rotational MDTF employments**
- **Operation PATHWAYS as a consistent venue for joint and combined rehearsals**
- **Persistent and deep sensing networks**
- **Concerted efforts to increase theater sustainment posture and resiliency**

USARPAC will continue to apply the methods used in UPWS 22, particularly from Event 1, to continuously refine the **assessment of strategy dynamics through the perspectives of the PRC** and other regional actors and prioritization of OAI based on their **efficacy in supporting Joint Force operational maneuver, fires, protection, and sustainment**. UPWS 23 will conduct a deep-dive exercise into **how posture options can enhance early identification of and responses to Indications & Warnings of potential contingencies**.

Conclusion

UNIFIED PACIFIC provided a venue to tackle some of the Joint Force's hardest problems, key assumptions, and gaps in understanding across the theater. It explored the collective ability of Theater Army employment, posture, Force Design, and Force Development to bolster **Joint and Combined Interoperability, increase Operational Endurance, and contribute to Integrated Deterrence through campaigning**.

The inaugural UNIFIED PACIFIC Wargame Series deepened understanding of key challenges in the theater. Thematically across all UPWS events, **UPWS 22 reinforced that 'more and better' weaponry will not overcome strategic deficiencies in posture, interoperability, or theater sustainment**. It was also evident that the Joint Force would likely benefit from **question key assumptions and executing branch planning against their potential failure**.

Above all, UPWS 22 highlighted that **future joint operations rely on the collective success of several assumptions**:

- **Unambiguous indicators and warning** to enable timely force flow
- **Reliable, resilient access and support from the Ally and Partner network**
- **Robust and resilient theater logistics architecture** and processes
- **Timely authorities** to employ cyber, space, and other effects
- **High levels of joint and combined interoperability**



Way Ahead

USARPAC is using UNIFIED PACIFIC 22 outcomes to integrate identified risks and gaps into future joint and service wargames and analyses with USINDOPACOM, the Army Enterprise, and Theater Service Components.

UPWS 22 results – risks, gaps, and potential solutions – will also inform refinement of USARPAC’s campaigning strategies and investments, support plans, and Campaign of Learning.

UNIFIED PACIFIC 23 will consist of two wargames that build on key learning points from UPWS 22:

- **Wargame 1** will evaluate posture, capabilities, and concepts to support timely **Indications & Warning** and **targeting cycles**
- **Wargame 2** will assess structure, processes, and capabilities for **joint theater logistics at the scale and speed of war**



ⁱ Office of the Secretary of Defense, “Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China,” 2021.

ⁱⁱ See the PRC National Defense Mobilization Law of 2010 and 2017 National Defense Transportation Law. Kevin McCauley, “China Maritime Report No. 22: Logistics Support for a Cross-Strait Invasion – The View from Beijing,” China Maritime Studies Institute, U.S. Naval War College, July 2022.

ⁱⁱⁱ Miranda Priebe, et al., *Multiple Dilemmas: Challenges and Options for All-Domain Command and Control*, RR1381-1, RAND Corporation, 2020.

^{iv} Jeffrey Engstrom, *Systems Confrontation and System Destruction Warfare: How the Chinese People’s Liberation Army Seeks to Wage Modern Warfare*, RR-1708, RAND Corporation, 2018.

^v Brittany Llowd, Jeremiah Rozman, “Achieving Decision Dominance through Convergence: The U.S. Army and JADC2,” *AUSA*, February 2, 2022.

^{vi} David A. Ochmanek, “Determining the Military Capabilities Most Needed to Counter China and Russia: A Strategy-Driven Approach,” PE-A1994-1, RAND Corporation, June 2022.

^{vii} Ethan Sterenfeld, “Army official sees drift from precision toward new focus on mass,” *InsideDefense*, February 18, 2022; Audrey Decker, “Analysts weigh scenarios for Chinese blockade of Taiwan and impact on U.S. Navy,” *InsideDefense*, August 11, 2022.

^{viii} See Robin L. May et al., “Advancing Globally Integrated Logistics Effort 2017 Wargame Report,” Center for Naval Analyses, Sept. 2017; Timothy A. Walton, Ryan Boone, Harrison Schramm, “Sustaining the Fight Resilient Maritime Logistics for a New Era,” Center for Strategic and Budgetary Assessments, 2019.

^{ix} Fact Sheet: 2022 National Defense Strategy, U.S. Department of Defense, March 2022.

^x See for recent examples: Sean Kimmons, “Army aims to further refine MDO with Indo-Pacific partners,” U.S. Army Pacific press release, June 1, 2020; Sean Kimmons, “Army leaders across Indo-Pacific meet to discuss challenges, opportunities,” U.S. Army Pacific press release, May 19, 2022; Devon Thomas, “U.S. Army Japan Commanding General visits Northern Army; builds relationships to increase interoperability,” U.S. Army Pacific press release, August 26, 2022.