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# JAMS

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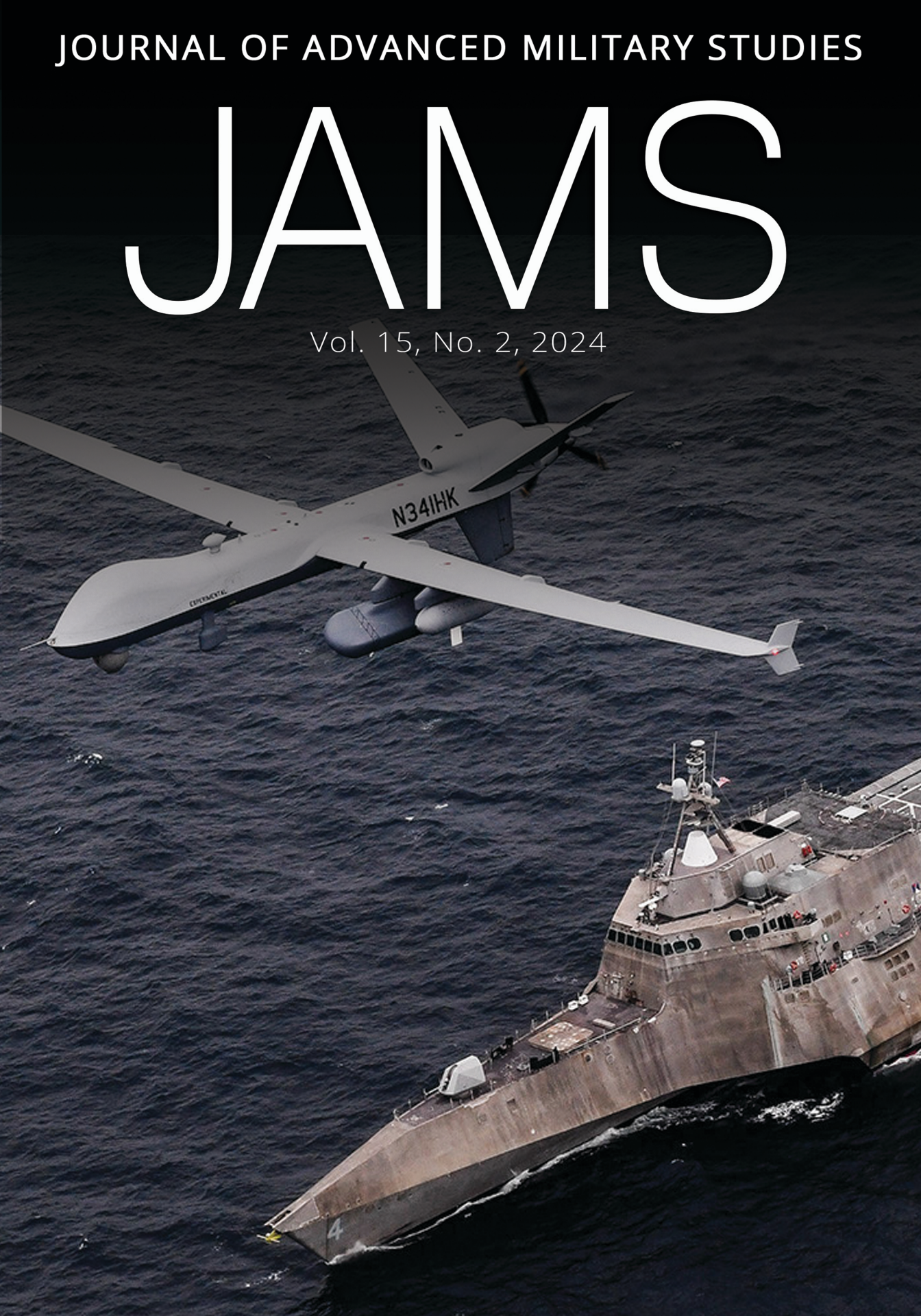

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Vol. 15, No. 2

# Land Power in the Littoral
## An Australian Army Perspective

John Nash, PhD

**Abstract:** The Australian Army is coming to terms with a new strategic direction set by the 2023 *Defence Strategic Review* (DSR), 2024 *National Defence Strategy* (NDS), and the Integrated Investment Program (IIP). This article considers how the Australian Army fits into this new direction as a littoral maneuver-focused force providing long-range strike capability. It examines concepts and analyzes how the Australian Army might be used in future scenarios: what it might be required to do in the maritime environment, whether it is contributing to sea control operations, sea denial, and/or intelligence, surveillance, reconnaissance (ISR). In addition, there is the maneuver component and how the Army might use the littorals of the Indo-Pacific as a maneuver space. This article seeks to generate discussion on how a modern land force might adapt to conflict and competition in the Indo-Pacific littoral.

**Keywords:** Australian Army, littoral, Indo-Pacific, Australian Defence Force, maneuver operations

## Introduction

On 24 April 2023, the Australian government released the public version of the *Defence Strategic Review* (DSR). The review set the pace for the Australian Defence Force (ADF) to move forward as a more fo-

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cused force ready to defend itself and its interests. Unsurprisingly, it highlighted the fact that Australia's most important geostrategic area of interest is the Indo-Pacific.[1] This is not just a geographic descriptor, but as a notable Australian national security expert has illustrated, an important new construct that brings together a range of approaches in security and diplomacy.[2] For the Australian Army, there is clear direction on the way forward: "[The] Army must be optimised for littoral operations in our northern land and maritime spaces and provide a long-range strike capability."[3] This was reinforced a year later in April 2024 with the release of the *National Defence Strategy* (NDS), which says that "Australia's Army must be transformed and optimised for littoral manoeuvre operations by sea, land and air from Australia, with enhanced long-range fires"; and the *Integrated Investment Program* (IIP), which details investment in the Army as an "Amphibious Capable Combined-arms Land System."[4] Australia's defense strategy as outlined by the NDS is that of a "strategy by denial."[5] It is designed to deter a potential adversary from taking action against Australia by signaling a credible ability to hold an adversary's forces at risk.[6] Australia has always been a maritime nation in character, if not in outlook and temperament. The direction set first by the DSR and then reinforced by the NDS and IIP demands a maritime approach to Australia's strategy of deterrence by denial.

This article considers how the Australian Army fits into this new direction in strategy, namely, as a littoral maneuver-focused force providing long-range strike capability. This approach requires deep thought on what this force will be required to do in a strategic context.[7] This necessitates an examination of concepts and how the army might be used in future scenarios: what might it be required to do in the maritime environment—contribute to sea control operations, sea denial, and/or intelligence, surveillance, reconnaissance (ISR)? Further, there is the maneuver component and this will entail examining how the army might use the littorals of the Indo-Pacific as a maneuver space. This is followed by an assessment of long-range fires and the opportunities and challenges of this unprecedented capability for the Army. Finally, there is the ever-present and always interesting, albeit quasi-speculative, look at autonomy and counterautonomy and how these new technologies might influence operations in the littoral environment. The Australian Army is very focused on the region, especially regarding how it can continue to build strong and enduring relationships with partners and allies. These relationships are an important focus area of army's research.[8] More than anything, this article seeks to spur discussion on how a modern land force might need to adapt to conflict and competition in the Indo-Pacific littoral.

## Background and Concepts

The Australian Army has a long history of conducting amphibious operations,

going as far back as the landings on New Guinea in September 1914, and the (in)famous Gallipoli landings of April 1915.[9] The real test, however, came during the Second World War and the Pacific campaign. Here, the Australian Army was involved in large-scale amphibious operations across the Southwest Pacific Area (SWPA) under Generals Sir Thomas Blamey and Douglas MacArthur. The Australian experience in New Guinea and Borneo saw close cooperation and integration with U.S. forces at all levels, from Joint planning through to combat and logistics operations.[10] However, the experience of the Australian Army since the Second World War has been of little maritime character, with the exception of the East Timor intervention of 1999 and again in 2006.[11] Even then, the maritime component operated in an entirely permissive environment. In the wake of withdrawal from major combat operations in Afghanistan at the end of 2014, the Australian Army has since then begun a pivot toward future planning.[12] The army has never stopped thinking about its place within a maritime strategy, with concepts developed in the early 2000s on maneuver operations in the littoral environment (MOLE), and scholars such as Michael Evans pushing for a "Third Way" in Australia's strategy, bridging the gap between continentalist and naval strategies.[13] However, the DSR and NDS have centered the army's (and wider ADF's) focus on the maritime world of the Indo-Pacific with a new urgency and clearer direction.

As with all things concepts and doctrine related, definition often plays an outsized role in the conversations. The term *littoral* in a warfare/doctrine sense is quite vague. The most widely accepted usage of the term is that it is the area in which shore-based forces can exert influence at sea, and forces at sea can exert influence ashore.[14] In this case, the main point of discussion/contention lies around the use of the terms *littoral warfare* versus *amphibious warfare*. Opinions range from them being synonymous to it being nigh on heretical to conflate the two concepts, while others decry littoral as no more than a buzzword describing operations that have been well-defined for centuries. Realistically, they are not the same, and the author would argue that amphibious operations fall under the broader term of littoral. In essence, all amphibious operations are littoral, but not all littoral operations are amphibious.[15] This is not to demote or downplay amphibious as a concept, but rather to highlight that the increasingly more integrated nature of warfare poses challenges to amphibious orthodoxy. Amphibious as it stands now is one-dimensional, in that the main conception of such an operation—be it a landing, assault, raid, or withdrawal—is focused on ship-shore-ship operations. This can be seen in *Australian Maritime Doctrine* and its definition of littoral maneuver as "the use of the littoral as an operational maneuver space from which a *sea-based* joint amphibious force can threaten, or apply and sustain, force ashore."[16] Large amphibious operations like this will still be required in any future littoral operations. However, given the likely dis-

persed nature of warfare in a future littoral environment, it means that forces put ashore in an amphibious operation will need to interconnect to each other outside the scope of simple ship to shore connection. For instance, a dispersed force of Australian Army units across several littoral locations (or a U.S. Marine Corps Marine littoral regiment force, for that matter) inside an enemy weapon engagement zone may not have any supporting ships nearby. Such dispersed forces might then be reliant on intratheater sea and air movement with each other and with a centralized logistics hub. These nodes may themselves need to be mobile, again using only organic in-theater movement assets. In some cases, a land-based force may not have any organic movement assets.

One might think of the Guadalcanal campaign from August 1942 to February 1943 as a key example. It was a campaign described by Toshi Yoshihara as "an early manifestation of a modern joint campaign in which airpower, naval power, and ground forces each played a crucial role."[17] After the initial U.S. Marine Corps assault on the island to secure the airfield, the battle became a contest in the three domains. The Marines were required to conduct close combat to defeat several Japanese offensives over the following months. This was to protect the vital airfield, Henderson Field, which provided the U.S. forces critical air support to interdict Japanese reinforcements. At the same time, these air forces could not fly at night, and the airfield was at risk of nocturnal bombardments by Japanese surface action groups, in turn requiring a covering force of U.S. Navy and Royal Australian Navy ships to prevent the airfield being taken out of commission by Japanese naval gunfire.[18] Both land forces—United States and Japanese—required constant logistics support from distant bases. It was arguably a far more contested sea and air environment than the other amphibious operations that would come later in the war. An important lesson that the People's Liberation Army (PLA) has taken from the failed Japanese campaign on Guadalcanal was the poor communication and poor command and control (C2) that existed between their land and naval forces.[19] This C2 failure was at both the tactical and operational level. In these ways, one might consider the Guadalcanal campaign as a littoral campaign, which saw many amphibious operations conducted throughout, including an assault, resupply and reinforcement, and a withdrawal, as well as naval gunfire support (NGS). At all stages the land, sea, and air forces had to contend with the difficult environment of the Solomon Islands littorals, affecting everything from equipment—including radar degradation—through to locating and targeting enemy units as well as enabling effective C2 across the theater. Future operations in the littoral may look a lot like this.

When looking at how the Australian Army will change and adapt to this new direction, the first step is to determine what will not change. The Australian Army is the ADF's land force and the only force capable of engaging in close

combat. This will remain its raison d'être in all environments, littoral or not. This is important when remembering an inescapable reality of the human environment: that sea and air nodes such as ports, airfields, and critical infrastructure such as undersea cable landings are on land. When thinking of the littoral, the army will need the ability to occupy or seize vital terrain and infrastructure from an adversary, for denial and/or control purposes. For this reason, the army is in the process of acquiring a new suite of land combat vehicles, including M1A2 Abrams, Boxer Combat Reconnaissance Vehicles (CRV), and AS21 Redback Infantry Fighting Vehicles (IFV).[20] These systems and others, such as the AS9 Hunstman Self-Propelled Howitzer (SPH), M777 howitzer, Sikorsky UH-60 Blackhawk, Boeing CH-47 Chinook, and Boeing AH-64 Apache, are all vital ingredients of the combined arms fighting system.[21] It is this system that will enable the army to "secure and control strategic land positions and provide protection for the ADF."[22] Importantly, these are platforms and systems that offer interoperability and even interchangeability with U.S. forces, Australia's closest ally. All of these systems will be necessary in the littoral environment protecting key terrain and denying it to an adversary, or, in the highest intensity scenario, ensuring the land force can take such terrain from an enemy.

Occupying key terrain may, however, only be one part to control or denial operations. As part of this there may be a forward presence, potentially in Australian offshore territory such as Christmas or Cocos Keeling Island, or in the region in support of allies in north Asia, such as the Philippines for example.[23] Once established, a unit will need to defend itself and project power at a distance with Precision Strike Missile (PrSM) armed HIMARS. Denial of key terrain and the possibility of high cost imposition are important elements of a denial strategy. In this sense, the army will need to maneuver to enable fires, again for control or denial purposes in the sea and air domains. Key to all of this is the ability to maneuver in the littoral space.

## Littoral Maneuver

First and foremost on the army's priority list is the ability to conduct littoral maneuver by sea, air, and land. This is a somewhat nebulous term, but clarification can be found in the language of the DSR: "littoral operations in our northern *land* and *maritime* spaces."[24] The future army will not be expected to use the sea as a mere highway, but as a tactical and an operational maneuver space. In conjunction with organic rotary wing assets, the Royal Australian Navy (RAN) and the Royal Australian Air Force (RAAF), the Army's new watercraft will provide it hitherto unknown mobility. These new littoral maneuver vessels—medium and heavy—will give the army the ability to conduct both intra- and intertheater sea lift, a capability that had been lost with the decommissioning of the last of the RAN's landing craft heavy (LCH) in 2014 and a

step-change over the legacy landing craft, mechanized (LCM-8, or Mike boat) craft currently operated by army. However, while the RAN operated six LCH's and the Army 15 of the much smaller LCM-8, the future Army will receive 18 landing craft medium and 8 landing craft heavy.[25] The new vessels will thus be more numerous, have longer ranges, and be able to carry vastly more personnel and materiel. The Australian Army will soon operate a fleet of ships larger than many regional navies.

A key issue in this is dealing with distance, specifically, the very long ranges a force or forces will face when operating in the Indo-Pacific area. This includes potentially long distances from the national support base. The Australian territory of Christmas Island is 1,500 nautical miles (nm) from Darwin, or 1,400 nm from Perth; Guam is more than 2,700 nm from Darwin; and even Townsville to the Solomon Islands is around 970 nm.[26] More than just movement between points on a map, littoral maneuver will almost certainly involve moving in and out of an enemy weapons engagement zone (WEZ). There are of course different WEZs for different weapons systems. Moreover, risk can be factored into WEZ incursions: it seems unlikely that a foe would expend exquisite and expensive munitions like an antiship ballistic missile (ASBM, for instance, a DF-26) on a landing craft heavy or medium. This is of course a risk-based calculation: a single landing craft heavy carrying a battle group well might justify targeting. It is also not to say that such units will operate alone. These Australian Army ships will need to integrate their operations with the RAN and RAAF in order for the other two services to provide effective escort. As the then chief of army, Lieutenant General Peter Leahy, wrote in 2003: "Land forces require the support of the RAN and the RAAF for strategic lift, air defence, communications, logistics and supporting fires."[27] While new acquisition such as the National Advanced Surface-to-Air Missile System (NASAMS), PrSM, and large amphibious vessels will change certain dynamics, military operations in the littoral will remain firmly a Joint endeavor.

As seen in the Guadalcanal example, the Australian Army will need to maneuver in the littorals in several different ways. While doubtful any force will be storming the beaches akin to Normandy or Tarawa, it is reasonable to assume a force put ashore in a contested environment will swiftly face opposition once landed. Either way, opposed or unopposed, future amphibious operations will need to focus on ship-to-shore connections and logistics. However, there will be more to it and the truest sense of littoral maneuver will be the use of maritime areas as an operational maneuver space. A useful example of this comes from Operation Husky, the Allied invasion of Sicily in July–August 1943. Weeks after the initial landings had lodged the main force on Sicily, the U.S. Seventh Army under General George S. Patton conducted several operations along the north coast, utilizing naval forces to outflank German defensive positions in

order to cut off their retreat toward Messina. A combat force was loaded onto landing craft from the shore—not at sea—and then landed behind German lines. While not decisive, these operations were demonstrative of how a land force utilizing organic naval lift assets could conduct operational maneuver.[28] This is the operational maneuver space that Australian doctrine already considers, but not restricted to the aforementioned sea-based construct it clings to.

In a future operating environment, a land element will no doubt require agility, including the potential to move through the littorals—by sea, land, and air—to occupy an important position for denial or strike purposes. This might follow on from an initial amphibious lodgment into an area of operations. For instance, an allied force might ensure a window of access through a weapons engagement zone into a particular area of operations to enable an amphibious task group (ATG) of amphibious assault ships (LHD) and landing craft medium and heavy entry to land a combined arms battlegroup element. The major amphibious ships could then depart, leaving the medium and heavy vessels as lower signature organic sealift assets. Depending on the window available in the WEZ, it might only be that the ATG has enough time to land the battlegroup in one or two positions, as fast as possible, and then depart, analogous to the Guadalcanal operation of late 1942. From there, the land force can disperse as required across the area of operations. Potentially included in this force are RAN assets required for traditional amphibious operations, such as mine clearance divers and deployable geospatial and hydrographic teams, based not from the sea, but the land. This is an even greater consideration as the ADF reestablishes the ability to conduct naval mining, as a land force might be employed to deliver such a denial capability in the littoral environment.[29] In all cases, this stretches the bounds of what has been "traditional" in amphibious operations.

## Long-Range Fires

The Australian Army will soon see an enormous shift in its ability to conduct long range precision strike. The introduction of HIMARS, along with the PrSM, will give the army great reach against both land and maritime targets.[30] As per the *Integrated Investment Program*, the Australian Army will be acquiring 42 HIMARS as part of the land component of its long-range strike regime.[31] Moreover, the Australian Army has taken delivery of the first of its NASAMS.[32] This allows the army to contribute to integrated air and missile defense beyond the short range and point defense air defense it was previously only capable of achieving.

None of this, however, is of much use without a robust ISR and C2 network. It may be, as many have argued, that anything on the surface of the sea can no longer remain hidden and that the surface of the ocean has thus become transparent.[33] It is an entirely different thing for this to remain the case in a

degraded ISR environment, and it is certainly not the same as being able to target something on the ocean. The maritime spaces of the Indo-Pacific are large, environmentally complex, and full of maritime traffic, from the largest container ships down to the smallest of fishing vessels and pleasure craft. Without accurate and timely targeting information, a ship at sea remains no more vulnerable than it did 100 years ago. This is not to minimize the threat posed by land-based strike systems, but merely to highlight that the weapons systems are but one piece of the puzzle. Without the ability to find and track a vessel, and to then relay accurate targeting data from sensor to effector, then there is no strike ability. Hence, it is both an ISR and a C2 problem.

Two terms are often used to refer to the concept of land-based fires used to deny the maritime environment: *antiaccess/area-denial* (A2/AD) and a *maritime precision-strike regime*. The idea of A2/AD is essentially that of denying access to a theater as well as denying the use of that area to enemy forces, including sea denial.[34] A mature maritime precision-strike regime has been defined by Andrew Krepinevich in an influential 2014 report as "a state in military affairs when the major maritime competitors have advanced ISR as well as precision-strike capabilities all linked together to form a battle network."[35] As this indicates, A2/AD (or precision maritime strike) consists of more than just possession of antiship cruise missiles (ASCMs), ballistic missiles, or any other one-dimensional capability. ASCMs are an antiair warfare problem, not an A2/AD problem; uncrewed surface vessels are a surface warfare or force protection problem, not an A2/AD one. It will not be enough for an Australian Army land force to merely possess batteries of HIMARS with PrSM. They will need to be integrated with RAN and RAAF assets to ensure multiple threat vectors against a hostile force. As Jack Watling and others have outlined, in order to be effective, A2/AD needs to be able to draw data from multiple and overlapping sensors that can then feed this as targeting information into weapons systems.[36] In this way, an A2/AD is a system involving multiple domain threats with persistent and reliable ISR and targeting available to multiple effectors, be they ground, air, and/or sea-undersea based and crewed or uncrewed. A common operating picture will be of primary importance for such a system to be maximally effective.

The efficacy of long-range strike organic to land forces has potentially changed, in part, due to the calculus of modern maneuver warfare. Conventionally, a land force would fire to maneuver; now a land force will often find itself maneuvering to fire.[37] This has most recently been seen in the Russo-Ukrainian War where Ukrainian formations have been maneuvering to ensure fire positions for long range strike at key Russian targets, often to great effect. The most effective way to threaten ships at sea is to do so from multiple threat vectors. Land forces working in concert with ships and aircraft can hold enemy ships at risk by maneuvering for advantage to threaten from the land. This is why the

Australian Army needs mobile land and maritime forces: landing craft carrying HIMARS armed with PrSM, integrated into a coalition common operating picture, for instance.

It should go without saying that logistics is critical to all military operations, but especially in the dispersed environment of the Indo-Pacific. Moreover, one of the key potential advantages of a land-based, long-range strike force is magazine depth, something highlighted by the Australian chief of army when discussing the potential contributions of land power in the Indo-Pacific.[38] The nature of vertical launch systems aboard modern warships means they can carry many more missiles than ever before, but with the trade-off of needing to return to a suitable port facility in order to reload. In contrast, the pods for a HIMARS are easily air portable and the HIMARS system is designed for easy reload. Again, there is a trade-off, and the idea of a land force having a superior magazine depth only works with a good logistics chain or when in or near to the national support base.

Australian maritime space is vast, encompassing an area abutting the Indonesian Archipelago down to Antarctica, and from Cocos Keeling Islands in the Indian Ocean to Norfolk and Lord Howe Islands in the Pacific. A concept that does not get much consideration in discussions of A2/AD or land-based maritime strike is maritime domain awareness (MDA). Usually thought of in the context of peacetime operations, MDA will be of immense value in any conflict scenario. The rather broad definition of MDA as per *Australian Maritime Doctrine* describes it as "the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment of a nation."[39] Essentially, MDA is concerned with continuous monitoring of the maritime environment, from natural and environmental phenomena to the patterns of life of the human users of the sea, be it commercial shipping, fishing, recreation, gas/oil exploration, piracy, or military. Looking at a map it is easy to see the blue space of the Indo-Pacific and think of empty ocean when in fact that maritime space is littered with commercial shipping, fishing fleets, and offshore infrastructure. Finding and targeting something in such an environment is far from straightforward or easy. An important information set will include data of the local patterns of life. In essence, effective MDA in peacetime and competition will allow for better situational awareness and better targeting discrimination during conflict. In the case of the Australian Army, this will require an integrated ADF and an interagency approach with such organizations as Maritime Border Command (MBC).[40] Australia's maritime jurisdiction is the third largest in the world at 8.2 million square kilometers, with 8,222 islands and one-half the population living within 7 km of the coast.[41] This is the ADF's prime area of interest, and with such a large coastline and coastal population the army will have a key role

to play protecting critical on- and offshore infrastructure. Hence, MDA will consider proper situational awareness.

Beyond Australian waters, strengthening cooperation with allies and partners in monitoring the maritime spaces of the Indo-Pacific would establish a substantially better picture of the littoral environment. In the case of conflict, the army will have a baseline of information for what the space looks like normally to establish what might be abnormal. Again, while usually associated with peacetime constabulary operations and maintaining good order at sea, MDA has great potential to aid both navies and land forces in future conflict in the littorals when integrated into a coalition common operating picture (COP).[42]

## Autonomy and Counterautonomy

One of the more vexing problems facing militaries around the globe, in all operating environments, is that of remote and autonomous systems (RAS), especially the proliferation of numerous and cheap unmanned aerial systems (UAS). This is a twofold problem, encompassing the effective use of these systems, as well as countering their use by an adversary. As the confluence of land, sea, and air, the littorals will no doubt see the proliferation of different systems in all domains. The Australian Army is exploring all options through the Robotic and Autonomous Systems Implementation & Coordination Office (RICO), part of Army Headquarters' Future Land Warfare branch.[43] The Australian Army is transforming to embrace new technology, from optionally crewed vehicles to quantum sensing and communications and artificial intelligence (AI)-enabled decision making.

The littoral sees a different environment for uncrewed systems than that of a pure land domain. Small, cheap first-person view (FPV) drones will surely be part of any future conflict, either for attack or for reconnaissance. They will be common in the land domain, but their utility out to sea will be very limited given their short ranges and endurance. They will also be operating in a vastly different physical environment to places such as Ukraine, the Middle East, or Armenia-Azerbaijan. The jungle environments of many places in the Indo-Pacific will not be suitable for such UAS. Not only will they be unable to operate in thick jungle canopy, but sensors will be severely degraded by the reality of a hot, humid environment of thick jungle foliage and near constant rain during much of the year. Camouflage and the use of decoys have made a resurgence in warfare, brought back into stark relief as both sides of the Russo-Ukrainian conflict have engaged in widespread usage of decoys, with great success on the Ukrainian side.[44] The use of camouflage and decoys in such an environment will be essential in taking advantage of what is already a difficult ISR environment: a very old yet still effective form of passive defense and perhaps the very first step in countering at least some

UAS in the littoral environment. It will also complicate what is already a complex ISR picture.

Nevertheless, UAS will proliferate and need to be employed and countered beyond what is being seen in current conflicts. As discussed above, the distributed nature of operations in the littoral will require a robust logistics system. This will be in all things, from guided weapons and explosive ordnance, through to food, medical supplies, and spare parts. Combined with additive manufacturing abilities, it may be that RAS can help distribute critical supplies in the field. This is something the Marine Corps is already looking at with its Medium Autonomous Resupply Vehicle—Expeditionary Logistics (MARV-EL) program, a capability that is of great interest to the Australian Army.[45]

Likewise, the use of autonomous sea and undersea assets will open new possibilities in defense and in offense. As with UAS, remote maritime vessels could be used for a range of different tasks, from ISR through to resupply and as weapons platforms. Much has been made of Ukraine's success in attacking the Russian Black Sea Fleet with unmanned surface vessels (USVs), and indeed the success of these attacks has been significant on the Russian Navy's ability to operate in the Black Sea.[46] The key point to remember is that the Indo-Pacific is a substantially different operating environment than the Black Sea, both operationally speaking and in the physical sense. The Ukrainian attacks have originated from home territory and thus with the full support of the national support base behind them, rather than being forward deployed. This matters both for the availability of support services as well as the physical challenges of launching an attack: the 14 February 2024 attack on the Russian landing ship *Tsezar Kunikov* (BDK 64) required 10 USVs.[47] Moreover, the small boat threat to surface vessels is far from a new one and navies will adapt to these uncrewed suicide boats.[48] What they do represent is a potential avenue of attack that—combined with other threats such as antiship missiles and mines—complicate an adversary's defensive calculations. Indeed, the introduction of a sea mine capability into the ADF bolsters Australia's ability to deter an adversary. Such a capability requires delivery platforms, and the use of USVs or even unmanned underwater vessels (UUV) operated forward from an Army/combined Army-RAN unit in the land domain is another potential avenue to extend the range of this deterrent effect.

## Way Ahead

The Australian Army is rapidly evolving into a littoral force, with many new capabilities that will be in service by the end of the decade, many even sooner. It will become far more integrated with the other services—the Royal Australian Navy and Royal Australian Air Force—as well as with partners and allies in all domains. Crucially, this includes both the U.S. Marine Corps and the U.S.

Army. Much of the above may seem to be simply a catalog of new capabilities, a list of new gadgets, and the promise of transformative technology. This alone is not evolutionary: it is the new ways in which the Army is developing as a littoral force and is integrating into the rest of the ADF that will see it develop new capabilities.

With a mind to maneuvering in the littoral and the capability to strike at distance as part of the integrated ADF, the Australian Army will have a key role to play in Australia's strategy of deterrence by denial. This article outlines part of the beginning of that journey: the intellectual recognition of what needs to be done, but also of the breadth of possibilities that will come from embracing the littorals as the army's future operating environment. This journey of transformation will not happen alone, and it is with partners and allies that Australian land forces will maintain their sharp edge in competition or conflict. All of the military services will need to transform to realize this potential. Doing so will enable the Australian Army to generate land power and enable the Joint force to protect Australia's national interests, in peace and in war.

## Endnotes

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5. *National Defence*, 7.
6. *National Defence Strategy*, 22.
7. A topic the author discusses in the introduction for the *Australian Army Journal* 19, no. 2, an edition focused entirely on the concept of littoral maneuver and what this means for the future of Australian Army. *Australian Army Journal* 19, no. 2 (November 2023): vii–xvii. In line with focusing on the transformation of the Australian Army as a military force, geopolitical and strategic discussions are omitted from discussion here—topics such as forward basing into the region and other such important issues. For a brief background, see *National Defence Strategy*, 11–13; see also, for an interesting discussion on what the People's Republic of China (PRC) is doing in the Pacific, Cleo Paskal, "Island-Hopping with Chinese Characteristics—What the PRC Is Doing in the Pacific Islands, Why It Matters, and Why the Time Has Come to 'Block and Build'," *Naval War College Review* 76, no. 4 (Autumn 2023): 75–105.
8. For example, see the Australian Army Research Centre's recent publications: Abdul Rahman Yaacob, Gatra Priyandita, and Sylvia Laksmi, "Southeast Asia's Security Landscape: Lessons for the ADF," Australian Army Occasional Paper No. 17, Australian Army Centre, 2023; and Michael O'Keefe, "Australian Defence Force International Engagement and Re-engagement with Fiji," Australian Army Occasional Paper No. 18, Australian Army Research Centre, 2023.
9. The 1914 landings in New Guinea were under the umbrella of the Australian Naval and Military Expeditionary Force (AN&MEF), which was led by naval infantry, supported by the lesser trained Citizen Militia Force (CMF) Troops who had been hastily assembled and volunteered for overseas service: CMF soldiers were not allowed to serve

overseas. For more details, see David Stevens, *In All Respects Ready. Australia's Navy in World War One* (South Melbourne, AU: Oxford University Press, 2014), 32–34, 53–67.

10. There are numerous works on these campaigns. For a more recent look, viewing these operations through a contemporary lens, the *Australian Army Journal* 19, no. 2 contains several articles: Dean on pp. 1–24, Crawley on pp. 62–88, Richardson on pp. 89–118, and Zimmerlie on pp. 178–237. For more comprehensive works, see Peter J. Dean, ed., *Australia 1943: The Liberation of New Guinea* (New York: Cambridge University Press, 2013); and Peter J. Dean, ed., *Australia 1944–45: Victory in the Pacific* (New York: Cambridge University Press, 2015).
11. On this, see Craig Stockings, *Born of Fire and Ash: Australian Operations in Response to the East Timor Crisis 1999–2000* (Sydney: University of New Wales Press, 2022); and William Westerman, "Entry by Air and Sea: The Littoral Challenges of Operation ASTUTE, 2006," *Australian Army Journal* 19, no. 2 (November 2023): 119–53.
12. Australian operations in Afghanistan and Iraq from 2001 to 2014 are the subject of a four-volume official history series (on which the author of this article worked) in conjunction with the two-volume series on operations in East Timor, 1999–2012. These volumes will be released in the next few years.
13. For instance, see Peter Leahy, "A Land Force for the Future: The Australian Army in the Early 21st Century," *Australian Army Journal* 1, no. 1 (2003); and Michael Evans, "The Third Way: Towards an Australian Maritime Strategy for the Twenty-first Century," Army Research Paper No. 1, Australian Army Research Centre, 2014.
14. Milan Vego, "On Littoral Warfare," *Naval War College Review* 68, no. 2 (2015).
15. The author is grateful to Mr. Rohan Todd in the Australian Army's Force Design Division for this nice turn of phrase, expressed during an AARC-run wargaming session, 2–3 May 2024.
16. Emphasis added. *Australian Maritime Doctrine* (Canberra: Royal Australian Navy, 2010), 198.
17. Toshi Yoshihara, *Chinese Lessons from the Pacific War: Implications for PLA Warfighting* (Washington, DC: Center for Strategic and Budgetary Assessments, 2023), 39.
18. For an overview of the naval actions during the campaign, see Craig Symonds, *World War II at Sea: A Global History* (New York: Oxford University Press, 2018), 295–311, 337–47, 363–72.
19. Yoshihara, *Chinese Lessons from the Pacific War*, 44.
20. This includes 75 M1A2 SEPv3 Abrams tanks, 29 M1150 Assault Breacher Vehicles (ABV), 17 M1074 Joint Assault Bridge (JAB) vehicles, 13 M88A2 Armored Recovery Vehicles (ARV), 211 Boxer 8x8 CRVs in five different variants, and 129 Redback IFVs. *Integrated Investment Program*, 54–55.
21. *Integrated Investment Program*, 53–55.
22. *National Defence Strategy*, 40.
23. For a more detailed example, see Andrew Carr and Stephan Frühling, "Forward Presence for Deterrence: Implications for the Australian Army," Australian Army Occasional Paper No. 15, Army Research Centre, 2023.
24. Emphasis added. *National Defence: Defence*, 7.
25. *Integrated Investment Program*, 54. While industry partners have been announced, detailed specification of these craft have not been released. See Ben Felton, "Austal, Birdon Secure Australian Landing Craft Contract," *Naval News*, 23 November 2023.
26. Darwin to Guam via the Wetar Strait. These vast distances into the Indo-Pacific operating area are also why the RAN acquiring nuclear-powered submarines is such a significant acquisition. The speed and endurance of nuclear propulsion will see RAN submarines able to reach and stay in the area of operations far quicker and for far longer than is the case with conventionally powered submarines.
27. Leahy, "Land Force for the Future," 24.
28. For more on this, see John Nash, "Amphibious Audacity. Littoral Manoeuvre during the Sicily Campaign July–August 1943," *Australian Army Journal* 20, no. 1 (2024), 18–42, https://doi.org/10.61451/2675065.

29. *Integrated Investment Program*, 2024, 35.
30. Australian Government, "Australia on Track for Missile Manufacturing and Increasing Long Range Strike Capability," press release, 16 January 2024.
31. *Integrated Investment Program*, 44.
32. Australian Government, "Army's First Live-Fire of Advanced Surface-to-Air Missile System," press release, 18 November 2023.
33. While it is specifically concerned with tracking SSBNs, the thrust of the article is that future technology means "that the oceans are, in most circumstances, at least likely and, from some perspectives, very likely to become transparent by the 2050s." Roger Bradbury et al., *Transparent Oceans?: The Coming SSBN Counter-Detection Task May Be Insuperable* (Canberra, AU: ANU National Security College, 2020).
34. *Joint Operational Access Concept (JOAC)*, version 1.0 (Washington, DC: Department of Defense, 2012), 6.
35. What in Soviet military theory was referred to as a *reconnaissance-strike complex*. Andrew F. Krepinevich, *Maritime Competition in a Mature Precision-Strike Regime* (Washington, DC: Center for Strategic and Budgetary Assessments, 2014), 12.
36. Jack Watling, Justin Bronk, and Sidharth Kaushal, *A UK Joint Methodology for Assuring Theatre Access*, Whitehall Report 4-22 (London: Royal United Services Institute, 2022), 12.
37. The author is grateful for insights provided by the director of the Australian Army Research Centre, Col Anthony Duus, and to LtCol Leo Purdy at the Australian Defence Force Academy for this insight, again during an AARC wargaming session.
38. LtGen Simon Stuart, "A Conversation with the AUKUS Army Chiefs on Land Power's Contribution to AUKUS Pillar 2," Center for Strategic and International Studies, 11 March 2024, YouTube video 1:02:53.
39. *Australian Maritime Doctrine*, 199.
40. Maritime Border Command is already an interagency organization, led by a RAN rear admiral.
41. "Australia's Coasts and Estuaries," Geoscience Australia, accessed 5 August 2024; and "Islands," Geoscience Australia, accessed 5 August 2024.
42. See Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, 4th ed. (London: Routledge, 2018), 340–43.
43. "Robotic and Autonomous Systems Implementation & Coordination Office (RICO)," Australian Army Research Centre, accessed 5 August 2024. See also *Robotic & Autonomous Systems Strategy*, ver. 2.0 (Canberra: Australian Army, 2022).
44. Numerous Russian claims of destroyed HIMARS and other systems have been debunked by footage of wooden and pipe decoys revealed as the actual victim. MSgt Jorge L. Rivero, "Decoy Warfare: Lessons and Implication from the War in Ukraine," U.S. Naval Institute *Proceedings* 150, no. 4 (April 2024).
45. A program managed by NAVAIR PMA-263 and will see capabilities like the Kamen Kargo medium lift UAV trialed this year: "KARGO UAV Takes Flight: Kaman Corporation Celebrates Successful First Flight of Autonomous KARGO UAV," Businesswire, 30 April 2024.
46. Stories too numerous to replicate, but for a quick overview: Abdujalil Abdurasulov, "Ukraine War: The Sea Drones Keeping Russia's Warships at Bay," BBC News, 12 March 2024.
47. David Axe, "Fitting A Bigger Warhead to a Bigger Hull, Did Ukraine Just Build Its First Drone Battleship?," *Forbes*, 9 April 2024.
48. Richard Dunley, "Ukraine-style Naval Attack Drones Present Challenges, but They Are Not Revolutionary," Australian Strategic Policy Institute, 21 March 2024.