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INDO-PACIFIC STRONGHOLD

NORTHERN AUSTRALIA'S ROLE IN THE AUSTRALIA-U.S. ALLIANCE

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2025

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ACKNOWLEDGMENTS

The author would like to thank Alan Dupont, Lee Goddard, Casey Nicastro, Mick Ryan, Toshi Yoshihara, and several anonymous reviewers for their thoughtful comments on the draft. He would also like to thank Eleanor Hughes for her assistance with editing, graphics, and writing portions of Chapter 3. He would also like to thank the participants in a workshop held in July 2022 that explored ways to strengthen the Australia–U.S. alliance.

The analysis and findings presented here are solely the responsibility of the author. CSBA receives funding from a broad and diverse group of contributors, including private foundations, government agencies, and corporations. A complete list of these organizations can be found on our website at www.csbaonline.org/about/contributors.

Cover graphic: Arrival of Royal Australian Air Force MQ-4C Triton Remotely Piloted Aircraft System at RAAF Base Tindal in the Australian Northern Territory, June 16, 2024. Credit: SGT Andrew Eddie, Royal Australian Air Force.

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Executive Summary

Over the past decade, Australia's strategic situation has gotten worse due to Beijing's expanding ambitions and the growth of Chinese military power to back them up. Successive Australian governments have recognized this fact in official government statements and, increasingly, in a commitment to increase defense budgets and acquire an expanded portfolio of capabilities.

For much of the last half century, Australia benefited from a favorable strategic environment. Australia's distance from the Asian continent and the littoral states of Southeast Asia has traditionally insulated it from potential threats. That same strategic geography, however, has required Australia to be able to detect threats far from its shores and project power over great distances if it is to defend its interests forward. The growth of Chinese military power, particularly Beijing's acquisition of an increasingly robust long-range strike capability, its development of power projection forces along with the basing and support infrastructure needed to support them, and its quest for influence in the South Pacific collectively call into question the assumptions that have long underpinned Australian defense strategy.

Although Australia is not invulnerable, it is located in a geographic sweet spot. It is far enough from China to avoid having to face the volume of missile fires that confront Taiwan and Japan while being close enough to the scene of potential conflicts, such as Taiwan and the South China Sea, to be operationally relevant. Given the worsening security situation in the Indo-Pacific region, Australia needs to shift to a defense infrastructure that emphasizes operational effectiveness over efficiency.

This report argues that if Australia is to remain an Indo-Pacific gateway, it must be fortified into a stronghold.[1] It would anchor the southern flank of allied efforts in the Indo-Pacific region. Northern Australia in particular is a critical piece of real estate strategically located at the crossroads of the Indo-Pacific region. The geography and basing infrastructure of

1 Mick Ryan has similarly referred to a Darwin/North Australia "strategic bastion." See Mick Ryan, "Darwin Strategic Bastion," in Jon Klug and Steve Leonard, eds., *Professionals Talk Logistics: Sustaining Strategy and Operations* (Havant, UK: Howgate, 2025).

northern Australia offer advantages that go beyond achieving operational effectiveness in crisis and war.

Northern Australia can serve as a venue where friendly forces train and experiment in peacetime, as the base from which they deploy, and as a hub that sustains them in wartime. Such operational forces in northern Australia must be able to sense their surroundings and beyond, defend themselves if attacked, and project and sustain power in time of war. Transforming northern Australia into an Indo-Pacific stronghold will require Australia to invest in creating an expanded and resilient defense infrastructure suited to the demands of 21st-century warfare, in acquiring a tailored long-range strike portfolio, and in enhancing Australia's ability to sustain operations in a protracted conflict.

Were the Australian government to build up northern Australia in a serious way, it would render a Chinese suppression campaign against Australian bases extremely difficult. A robust basing infrastructure, combined with air and missile defenses, would compound the costs Beijing would face if conducting very long-range strikes. Existing efforts are, however, likely to be insufficient to the needs of a major conflict.

With China's expanding reach and the growing possibility of conflict, Australia can no longer ignore the possibility that it will be attacked. Australia's strategic geography still works in its favor, but the resources available to meet the threat are limited, as is the time available to do so. As a result, the Australian government needs to act quickly to implement a handful of mutually supporting initiatives that will, collectively, turn Australia into an Indo-Pacific stronghold. These include:

- creating a world-class training, exercise, and experimentation infrastructure to help Australia and its allies;
- investing in a robust, real-time intelligence, surveillance, and reconnaissance network to warn of threats to Australia and its neighbors;
- creating an expanded, resilient defense infrastructure suited to 21st-century warfare;
- fielding an integrated air, drone, and missile defense system to protect key facilities, enhance survivability, and complicate the Chinese calculus when considering strikes;
- acquiring a tailored force projection and strike portfolio; and
- enhancing Australia's ability to sustain operations in a protracted conflict.

CHAPTER 1

Introduction

In 2013, the Center for Strategic and Budgetary Assessments (CSBA) published *Gateway to the Indo-Pacific: Australian Defense Strategy and the Future of the Australia–U.S. Alliance*. That report explored four ways in which Australia could increase its contributions to regional security and deterrence:

- **Supportive Sanctuary**: Capitalizing on its advantageous geographical position, strategic depth, and highly developed infrastructure, Australia could play an indispensable role by providing access, training opportunities, logistics, and repair facilities to support Allied military forces.
- **Indo-Pacific Watchtower***:* Australia's unique geography and decades of close intelligence, surveillance, and reconnaissance (ISR) cooperation with the United States provide the foundation for expanding its role in reconnoitering the Indo-Pacific, space, and cyber domains.
- **Green Water Warden:** Australia's proximity to key Southeast Asian waterways and considerable experience conducting difficult amphibious and littoral operations place it in an ideal position to work alongside Indonesia in safeguarding the Sunda and Lombok Straits.
- **Peripheral Launchpad:** Australia's extended coastlines and position make it an ideal location from which peripheral campaigns in the Indian Ocean could be conducted, such as maritime interception operations, if conflict broke out in the Western Pacific.[2]

The 2013 report argued that to best align Australia's future defense capabilities with its operational environment and its emerging military strategy, it should pursue longer range

2 Jim Thomas, Zack Cooper, and Iskander Rehman, *Gateway to the Indo-Pacific: Australian Defense Strategy and the Future of the Australia–U.S. Alliance* (Washington, DC: Center for Strategic and Budgetary Assessments, 2013), chap. 2.

air capabilities, both manned and unmanned, and ideally acquire nuclear-powered submarines, unmanned underwater vehicles, and submarine tenders.[3]

Over the past decade, Australia's strategic situation has gotten worse due to Beijing's expanding ambitions and the growth of Chinese military power to back them up. Successive Australian governments have recognized this fact in official government statements and, increasingly, in a commitment to increase defense budgets and acquire an expanded portfolio of capabilities. Australian defense spending increases have, however, yet to materialize. In fact, defense spending has marginally decreased due to inflation and the rising cost of U.S.-supplied equipment.

On September 16, 2021, the leaders of Australia, the United Kingdom, and the United States announced the creation of an enhanced trilateral security partnership known as AUKUS. The partnership is the most significant development in Australian security policy in over a half century. Its first initiative, AUKUS Pillar 1, involves Australia's acquisition of conventionally armed nuclear-powered submarines, as CSBA had recommended. AUKUS Pillar 2 involves collaboration on advanced technologies such as artificial intelligence and quantum computing.

This report argues that if Australia is to remain an Indo-Pacific gateway, it must be fortified into a stronghold.[4] This would allow it to anchor the southern flank of allied efforts in the Indo-Pacific region. As a stronghold, it would be a location where friendly forces could train and experiment in peacetime, a base from which they could deploy, and a hub that could sustain them in wartime. To maintain its effectiveness, such a stronghold would need to be able to sense its surroundings and beyond, defend itself if attacked, and project and sustain power in time of war. An Indo-Pacific stronghold would be difficult for China to ignore or bypass, so it would pose a nettlesome problem for the People's Liberation Army (PLA).

Northern Australia is a critical piece of real estate strategically located at the crossroads of the Indo-Pacific region. It is vital for U.S. force projection and sustainment in the Western Pacific, whether for deterrence or warfighting. Australia no longer lies beyond harm's reach, so it must be defended. This will require a mix of passive defense, active defense, and strike capabilities. In addition, Australia has a vital role to play as a world-class venue for training and experimentation in peacetime and as a robust logistics sustainment hub in wartime.

Australia served a similarly vital role during World War II. It provided rear area support and key defense infrastructure for U.S. operations in the Pacific, particularly during the early phases of the campaign to dislodge Japanese forces from their bases in Papua New Guinea, the Solomons, and other Pacific islands. Darwin, for example, was a major allied base during World War II. It was a major anchorage and site of airfields from which allied bombers

3 Thomas, Cooper, and Rehman, *Gateway to the Indo-Pacific,* chap. 3.

4 Mick Ryan has similarly referred to a Darwin/North Australia "strategic bastion." See Ryan, "Darwin Strategic Bastion."

sortied north to attack the Japanese. Darwin, in turn, faced more than a hundred Japanese bombing raids between January 1942 and November 1943.[5]

This study is based upon two fundamental assumptions. The first is that the Australian government continues to have confidence in the Australia–U.S. alliance. The second is that the Australian government is willing to engage the Australian public about the need to increase defense spending to support the types of measures this report describes.

Organization of this Report

This report proceeds in three parts. Chapter 2 examines the geographic and historical context of Australian strategy formulation and implementation. Chapter 3 lays out a vision of Australia as an Indo-Pacific stronghold. It focuses upon Australia's need to create a world-class training, exercise, and experimentation infrastructure to help it and its allies prepare for 21st-century warfare; invest in a robust, real-time ISR network to warn of threats to Australia and its neighbors; create an expanded, resilient defense infrastructure suited to 21st-century warfare; field an integrated air, drone, and missile defense system to protect key facilities to enhance survivability and complicate the Chinese calculus when considering strikes; acquire a tailored long-range strike portfolio; and enhance Australia's ability to sustain operations in a protracted conflict. Chapter 4 provides conclusions and recommendations.

5 Ryan, "Darwin Strategic Bastion," 188–89.

CHAPTER 2

Australia's Strategic Position

Australia's strategic position has both yielded benefits and posed challenges (see **Figure 1**). On the one hand, Australia's distance from the Asian continent and the littoral states of Southeast Asia has insulated it from potential threats. On the other hand, that strategic geography has required Australia to be able to detect threats far from its shores and project power over great distances if it is to defend its interests forward.

Australia has historically relied upon its strategic geography to protect it against aggression. As Michael Evans has noted, Australia's strategic culture is based upon the notion that the vast expanse of the Australian continent can serve as a fortress protecting Australia against attack.[6] Seen through this lens, the sea "has consistently been viewed as a defensive moat…a 'sea–air gap' that separates the continental landmass from the South East Asian archipelagos."[7] This continental awareness has come at the expense of recognizing that Australia is actually a continent-sized island. It must use the sea as maritime maneuver space to protect itself and to project power in support of its interests in the region and beyond.

6 Michael Evans, *The Tyranny of Dissonance: Australia's Strategic Culture and Way of War, 1901–2005*, Study Paper No. 306 (Canberra: Land Warfare Studies Centre, 2005), 23, 24.

7 Michael Evans, *The Tyranny of Dissonance*, 38.

FIGURE 1: AUSTRALIA'S NORTHERN APPROACHES

Source: Created by CSBA using map data courtesy of naturalearthdata.com and Copernicus Sentinel-2.

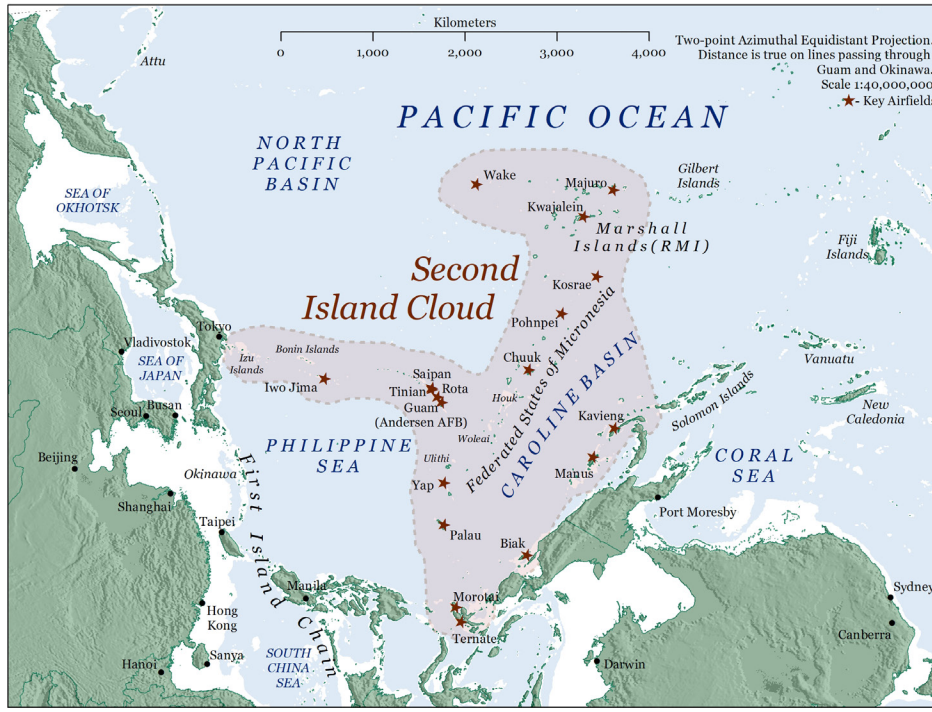
The obverse of this is also true: Australia must invest in long-range capabilities if it is to defend itself in depth or project power beyond its immediate surroundings. As a result, Canberra has historically invested in long-range sensors, such as the Jindalee Operational Radar Network (JORN), a world-class over-the-horizon radar network that can monitor air and sea movements to Australia's north and west. Similarly, the Australian Defence Force (ADF) has traditionally possessed long-range strike capabilities. The Royal Australian Air Force was the only service other than the U.S. Air Force to operate the F-111 theater strike aircraft. The Royal Australian Navy operates the long-range *Collins*-class attack submarines and will soon begin operating *Ghost Shark* unmanned underwater vehicles (UUVs) and *Virginia*-class nuclear-powered attack submarines, vessels that have the combination of speed, range, and endurance to be suited to the Indo-Pacific region. The Australian Army's First Division, for its part, is now solely expeditionary.[8]

Australia is deeply connected with the states to its north. Australia's Torres Straits region is close to Papua New Guinea, and Christmas, Cocos, and Keeling Islands are close to Indonesia. Beyond Indonesia and Papua New Guinea lie what Andrew Rhodes has dubbed the "Second Island Cloud" (**Figure 2**). Anchored by Japan in the north and Indonesia and Papua New Guinea in the south, it includes Guam and the Commonwealth of the Northern Mariana Islands (CNMI), the Republic of Palau, the Federated States of Micronesia (FSM),

8 See, for example, Ash Collingburn and Tom McDermott, "Australia's Army Is Adapting for the Littorals: Land Power Cannot Be Overlooked in the Indo-Pacific," *U.S. Naval Institute Proceedings* 151, no. 5, May 2025, https://www.usni.org/magazines/proceedings/2025/may/australias-army-adapting-littorals.

and the Republic of the Marshall Islands (RMI). Guam and CNMI are unincorporated territories of the United States; Palau, FSM, and RMI enjoy compacts of free association with the United States and are collectively known as the Freely Associated States.[9]

FIGURE 2: THE SECOND ISLAND CLOUD



Source: Created by Andrew Rhodes and available at https://img1.wsimg.com/blobby/go/4c5456d6-a318-49d7-ac1c-f151fb7ab26b/downloads/Second%20Island%20Cloud.jpg?ver=1655645112138

The Second Island Cloud plays an increasingly important role in U.S. defense planning. Guam is a vital hub for U.S. naval and air forces in the Western Pacific. CSBA has recently argued in favor of increasing the long-range power projection and strike capabilities stationed on Guam and bolstering the resilience of U.S. posture on the island through both passive defense and a layered approach to active defense against the full spectrum of threats.[10] North of Guam, on Tinian, the U.S. Air Force is reclaiming an airfield that last saw major use by B-29 bombers in World War II as part of Agile Combat Employment (ACE), an effort to develop a larger, more dispersed, and robust network of bases in the Western

9 Andrew Rhodes, "The Second Island Cloud: A Deeper and Broader Concept for American Presence in the Pacific Islands," *Joint Force Quarterly* 95, no. 4, 2019, https://ndupress.ndu.edu/PFphaortals/68/Documents/jfq/jfq-95/jfq-95_46-53_Rhodes.pdf.

10 Carl Rehberg and Josh Chang, *Moving Pieces: Near-Term Changes to Pacific Air Posture* (Washington, DC: Center for Strategic and Budgetary Assessments, 2022), chap. 3; and Carl Rehberg and Herb Kemp, *Strengthening the Phalanx: Layered, Comprehensive, and Distributed Air and Missile Defense in the Indo-Pacific* (Washington, DC: Center for Strategic and Budgetary Assessments, 2023).

Pacific.[11] To the southeast of Guam, on Palau, the U.S. Air Force is constructing a new over-the-horizon radar to increase air and maritime domain awareness for U.S. and allied forces in the region.[12] The Marines, for their part, have rebuilt the runway on Peleliu.[13]

Geography's Role in Australian Strategy

Geography has been central to Australian defense strategy for the better part of a century. Historically, Australia's distance from the Asian mainland was a source of great security. As the Australian Department of Defence's 1947 *Appreciation of the Strategic Position of Australia* put it:

> Australia is situated at the end of a series of islands extending from South-East Asia. Except for these Islands to the North and North West, she is surrounded by vast oceans. Her geographical position, therefore, is such that no hostile Power, without possessing command of the sea and local air superiority, could successfully invade Australia, nor could she launch an effective major air attack on the vital areas of Australia, without possessing suitable bases for launching long-range weapons.[14]

From 1953 to 1968, Australian security was predicated on a strategy of forward defense in Southeast Asia in support of Australia's allies. That strategy included the ADF's participation in the Vietnam War. In the face of U.S. retrenchment after it withdrew from South Vietnam, however, Australian strategy shifted to its own defense and on acquiring sovereign Australian capabilities.[15]

For much of the last half century, Australia benefited from a favorable strategic environment. As a 1987 Australian Defence White Paper put it, "No neighbouring country harbours aggressive designs on Australia, and no country has embarked on the development of the extensive capabilities to project maritime power which would be necessary to sustain intensive military operations against us."[16] This permissive regional environment gave Australia the strategic freedom to participate in contingencies outside its immediate neighborhood, including the 1991 Gulf War and the wars in Afghanistan and Iraq.

11 Christopher Woody, "Satellite Photos Show How the U.S. Air Force Is Reclaiming a WWII-Era Airfield from the Jungle to Prepare to Dodge Chinese Missiles," *Business Insider*, November 30, 2023, https://www.businessinsider.com/satellite-photos-air-force-ace-airfield-tinian-pacific-island-2023-11.

12 Emma Helfrich and Tyler Rogoway, "U.S. Building Advanced Over-the-Horizon Radar on Palau," *The War Zone*, December 30, 2022, https://www.twz.com/u-s-building-advanced-over-the-horizon-radar-on-palau.

13 Brad Lendon, "U.S. Military Rebuilds Runway on Site of 'Nightmare' World War II Battle," *CNN*, June 30, 2024, https://www.cnn.com/2024/06/30/asia/us-military-rebuilds-runway-peleliu-palau-intl-hnk-ml/index.html.

14 Reproduced in Stephan Frühling, ed., *A History of Australian Strategic Policy* (Canberra: Department of Defence, 2009), 121.

15 Frühling, *A History of Australian Strategic Policy*, 43–46.

16 Australian Department of Defence, *The Defence of Australia* (Canberra: Department of Defence, 1987), 19–20.

The growth of Chinese military power, Beijing's acquisition of an increasingly robust long-range strike capability, its development of power projection forces with the basing and support infrastructure needed to support them, and its quest for influence in the South Pacific collectively call into question the assumptions that have long underpinned Australian defense strategy.

First, China's military modernization, which has seen the PLA field increasingly capable forces, has undermined the qualitative military edge that Australia has relied upon to balance the threat posed by larger adversaries. Beijing has been able to field increasingly sophisticated systems, and it has been able to do so at scale.[17]

Second, China's acquisition of long-range strike capabilities—missiles and aircraft, but also space and cyber capabilities—has brought Australia in range of the PLA. As described below, China's missiles and aircraft pose a limited but growing threat to Australia. Ballistic missiles could reach their targets in tens of minutes, and China's development of hypersonic weapons adds a new dimension to the threat. Moreover, China's space and cyber capabilities threaten to put Australia on the front line at the very outbreak of a conflict.

Third, Beijing has steadily increased its ability to project naval power into Australia's neighborhood. Deployments of Chinese surface warships and submarines have increased in recent years. In May 2022, for example, a Chinese spy ship operated off the coast of Australia for nearly a week, spending days near the Harold E. Holt Communications Station in Exmouth, Western Australia, which provides very low frequency (VLF) communication transmission services to Australian and American submarines.[18] More recently, in February 2025, Chinese naval vessels conducted two live-fire exercises in waters near Australia and New Zealand.[19]

Finally, Beijing's quest for political and economic influence among the Pacific island nations has increased, punctuated by the signing of a security pact with the Solomon Islands. The agreement, coupled with Chinese efforts elsewhere in the region, raises the specter of Chinese military support facilities or bases in Australia's immediate neighborhood.[20]

17 U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022* (Washington, DC: Department of Defense, 2022), https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-military-and-security-developments-involving-the-peoples-republic-of-china.pdf.

18 Dzirhan Mahadzir, "Chinese Navy Ship Operating off of Australia, Canberra Says," *USNI News*, May 13, 2022, https://news.usni.org/2022/05/13/chinese-navy-ship-operating-off-of-australia-canberra-says.

19 Donald R. Rothwell, "China's Live-Fire Exercises between Australia and New Zealand Spark Soul-Searching, *The Diplomat*, February 24, 2025, https://thediplomat.com/2025/02/chinas-live-fire-exercises-between-australia-and-new-zealand-spark-soul-searching/.

20 Kate Lyons, "A Pivotal Moment: Pacific Faces a Choice over China that Will Shape it for Decades," *The Guardian*, May 27, 2022, https://www.theguardian.com/world/2022/may/28/a-pivotal-moment-pacific-faces-a-choice-over-china-that-will-shape-it-for-decades.

In 2020, these developments led the Australian government to revise the strategic assumptions that had governed defense planning. For example, whereas Australian Department of Defence planning had assumed a ten-year strategic warning time for a major conventional attack on Australia, the *2020 Defence Strategic Update* concluded, "This is no longer an appropriate basis for defence planning.... Reduced warning times mean defence plans can no longer assume Australia will have time to gradually adjust military capability and preparedness in response to emerging challenges."[21]

The report of the 2023 Defence Strategic Review called for the Australian government to take a first-principles approach to deter "the prospect of major conflict in the region that directly threatens our national interest."[22] Given the magnitude of the threat facing Australia, the review called on Australia to adopt a whole-of-government approach to security. Moreover, it argued the United States would become even more important to Australian security in coming decades and called upon the Australian Department of Defence to pursue more advanced scientific, technological, and industrial cooperation with the United States and to seek increased U.S. rotational force posture in Australia, including with submarines.[23]

The review called for the ADF to evolve into an integrated force capable of harnessing effects across the maritime, land, air, space, and cyber domains. It further called for the ADF to invest in manned and unmanned undersea warfare capabilities, enhanced long-range strike capabilities, an amphibious-capable combined arms land system, enhanced all-domain maritime capabilities for sea denial and localized sea control, a networked expeditionary air capability, enhanced integrated air and missile defense (IAMD), a joint expeditionary theater logistics system, and a theater command and control framework.[24]

Notably, the review called for the Australian government to develop a network of northern bases to provide logistical support, denial, and deterrence. It argued Australia's national defense required "an enhanced network of bases, ports and barracks across northern Australia. Comprehensive upgrade works on these bases must commence immediately, and fuel storage and supply issues should be rectified."[25]

The 2023 *Defence Strategic Review* also called for the Australian government to conduct a biennial strategic update. The 2024 *National Defence Strategy* outlined five tasks for the ADF:

- defend Australia and its immediate region;

21 Australian Department of Defence, *2020 Defence Strategic Update* (Canberra: Department of Defence, 2020), 14.

22 Australian Department of Defence, *National Defence: Defence Strategic Review* (Canberra: Department of Defence, 2023), 17.

23 Australian Department of Defence, *National Defence,* 18.

24 Australian Department of Defence, *National Defence,* 19.

25 Australian Department of Defence, *National Defence,* 19–20.

- deter through denial any potential adversary's attempt to project power against Australia through its northern approaches;
- protect Australia's economic connection to the region and the world;
- contribute to the collective security of the Indo-Pacific region; and
- contribute to the maintenance of the global rules-based order.[26]

To do that, the ADF needed to be able to:

- project force;
- hold a potential adversary's forces at risk;
- protect ADF forces and supporting critical infrastructure in Australia;
- sustain protracted combat operations;
- maintain persistent situational awareness in its primary area of military interest; and
- achieve decision advantage.[27]

Australia as an Indo-Pacific Stronghold

Although Australia is not invulnerable, it is located in a geographic sweet spot. It is far enough from China to avoid having to face the volume of missile fires that confront Taiwan and Japan, yet it is close enough to the scene of potential conflicts, such as Taiwan and the South China Sea, to be operationally relevant.

In an absolute sense, Australia today is more vulnerable than it was in recent decades. As **Figure 3** shows, Australia faces a limited missile (DF-26) and cruise-missile-armed bomber (H-6K) threat. It is also vulnerable to cruise missiles launched by Chinese submarines or warships.

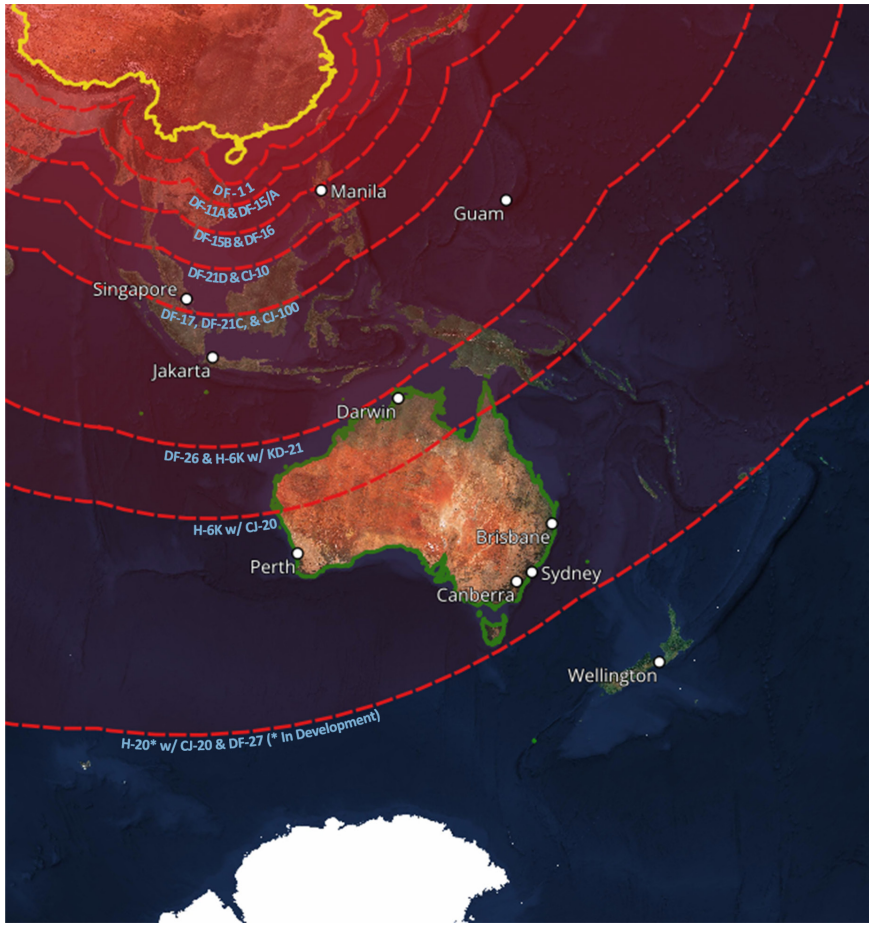
The most significant recent development is China's deployment of the DF-26 intermediate-range ballistic missile (IRBM), a weapon with an assessed range of 4,000 km, which would put northern Australia within reach if the missile was launched from Hainan Island or the artificial features in the South China Sea. The U.S. Defense Department has stated that the PLA may have deployed an even longer range ballistic missile known as the DF-27. Such a missile, which could have a range of 5,000–8,000 km, reportedly has a hypersonic glide vehicle payload option as well as conventional attack, conventional anti-ship, and nuclear

26 Australian Department of Defence, *National Defence Strategy* (Canberra: Department of Defence, 2024), 7.

27 Australian Department of Defence, *National Defence Strategy*, 28–29.

capabilities.[28] Australia is also within range of cruise missiles launched from Chinese bombers: the H-6K today, and potentially China's new strategic bomber, the H-20, some time in the future.

FIGURE 3: THE PLA'S INCREASING REACH



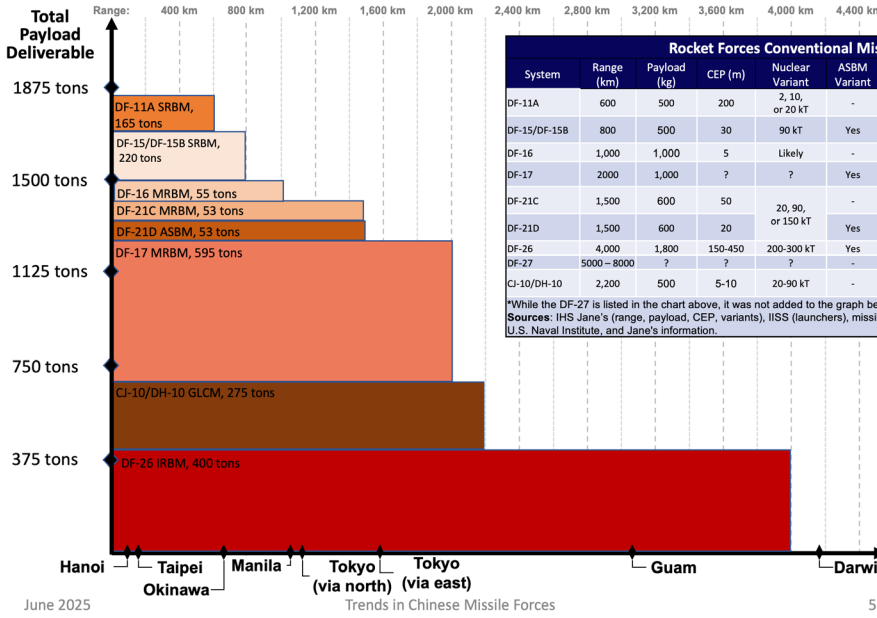
Note: Ranges are estimated. Systems grouped together have similar, albeit slightly different ranges.
Source: Created by CSBA.

Australia's strategic geography nonetheless still works in its favor. Australia's distance from China limits the scale of the threat it faces. As shown in **Figure 4**, the magnitude of the Chinese air and missile threat diminishes with distance from China. In part, that is because China has for decades focused on the need to coerce or invade Taiwan while denying the United States the use of bases in the Western Pacific. It is also the byproduct of the fact that, all other things being equal, the greater the range of a missile or aircraft, the more expensive

28 U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China: Annual Report to Congress* (Washington, DC: Department of Defense, 2024), 65, https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/military-and-security-developments-involving-the-peoples-republic-of-china-2024.pdf.

it is. As a result, long-range strike systems such as those that could threaten Australia are relatively expensive and can be procured in smaller numbers than short-range systems for a given level of investment.

FIGURE 4: THE MISSILE THREAT AS A FUNCTION OF DISTANCE



Rocket Forces Conventional Missiles

System	Range (km)	Payload (kg)	CEP (m)	Nuclear Variant	ASBM Variant	Warhead Variants	Missiles	Launchers
DF-11A	600	500	200	2, 10, or 20 kT	-	HE, FAE, Submunitions	300	108
DF-15/DF-15B	800	500	30	90 kT	Yes	HE, EMP, Submunitions	400	81
DF-16	1,000	1,000	5	Likely	-	None	50	36
DF-17	2000	1,000	?	?	Yes	HGV	540	48
DF-21C	1,500	600	50	20, 90, or 150 kT	-	HE, Submunitions	~240	24
DF-21D	1,500	600	20		Yes	HE, Submunitions		30
DF-26	4,000	1,800	150-450	200-300 kT	Yes	?	200	110
DF-27	5000 – 8000	?	?	?	-	?	?	?
CJ-10/DH-10	2,200	500	5-10	20-90 kT	-	HE, Submunitions	500	54

*While the DF-27 is listed in the chart above, it was not added to the graph because its payload remains unknown.
Sources: IHS Jane's (range, payload, CEP, variants), IISS (launchers), missile inventories estimated using DoD, the U.S. Naval Institute, and Jane's information.

Source: Created by CSBA

Australia's distance from China also yields increased tactical warning of attack. As discussed at greater length in Chapter 3, more investment in air and maritime (surface and subsurface) domain awareness can translate into increased warning.

The threat to Australia is likely to grow as China expands its long-range strike capability, although the character of that buildup will be shaped by the cost of long-range missiles and bombers relative to shorter range strike systems. China could also increase its ability to project power against Australia and reduce Australian warning time through forward basing, either from its artificial features in the South China Sea, from naval forces operating in Australia's vicinity, or from facilities on Pacific islands. As discussed further below, the People's Liberation Army Navy (PLAN) has in recent years deployed more naval task groups in the vicinity of Australia. In early 2025, for example, a PLAN task group circumnavigated Australia, a deployment that included live-fire exercises. Such deployments not only threaten the sea lines of communication between Australia and the United States but may also coerce those whose ships carry trade between Australia and the world. China is not the

only malign actor in Australia's neighborhood. Russia has reportedly sought to station long-range aircraft at an Indonesian air base in West Papua.[29]

Although Australia is not invulnerable, it is defensible, particularly if Australia adopts the passive and active defense measures discussed in Chapter 3 of this report to cope with the threats it will face.

The resources available to meet the threat are limited, as is the time available to do so. As a result, the Australian government needs to act quickly to implement a handful of mutually supporting initiatives that will, collectively, turn Australia into an Indo-Pacific stronghold. As described in the following chapter, these include:

- creating a world-class training, exercise, and experimentation infrastructure to help Australia and its allies;
- investing in a robust, real-time ISR network to warn of threats to Australia and its neighbors;
- creating an expanded, resilient defense infrastructure suited to 21st-century warfare;
- fielding an integrated air, drone, and missile defense system to protect key facilities, enhance survivability, and complicate the Chinese calculus when considering strikes;
- acquiring a tailored force projection and strike portfolio; and
- enhancing Australia's ability to sustain operations in a protracted conflict.

29 The Indonesian government has denied the report. Muhammad Faizal Abdul Rahman, "Are the Russians Eyeing West Papua for an Overseas Military Base?" *The Diplomat*, April 18, 2025.

CHAPTER 3

Creating an Indo-Pacific Stronghold

Although history does not repeat itself, it does, as the maxim goes, rhyme. During World War II, Australia played a key role in Allied efforts in the Pacific and Indian Oceans and beyond by providing vital defense infrastructure and rear area support for allied operations in the Pacific. Then as now, Australia's strategic geography offered important advantages to allied efforts. Given sensible investments, Australia can again serve as a defensible and resilient base for theater operations.

Creating a World-Class Training, Exercise, and Experimentation Infrastructure

The geography and basing infrastructure of northern Australia offer advantages that go beyond achieving operational effectiveness in crisis and war. Northern Australia can play a key role in training and experimentation by Australian, American, Japanese, and perhaps other armed forces. Indeed, northern Australia could become a world-class training, exercise, and experimentation hub.

Experimenting with, developing, and testing new capabilities, operational concepts, and organizations for the kinds of war Australia and its allies are expected to fight is challenging. One reason is that military operations in the expansive geography of the Pacific require forces that are capable of deploying and operating over long distances. Australia, the United States, and Japan are investing in long-range strike systems, including a range of hypersonic weapons. There are, however, relatively few places where such systems can be tested to their

full extent. Senior U.S. officials have discussed the possibility of testing long-range strike systems such as hypersonic weapons or the Precision Strike Missile in northern Australia.[30]

A second reason is that modern military operations are increasingly multidomain, involving actions on land, at sea, in the air, across the electromagnetic spectrum, and in space. For example, there is a large and growing need to test and hone amphibious and littoral operations at scale. There is a similarly urgent need to test crewed–uncrewed teaming concepts at scale in all dimensions. Very few test facilities have the ability to explore multidomain operations at scale.

Third, there is a need to integrate forces not only across domains but also among allies and coalition partners. There is, for example, demand for training ranges and facilities from countries like Japan and Singapore that suffer from limited space and cramped facilities. For these countries, training abroad hones warfighting skills and enhances interoperability with allies and partners. Multinational exercises may also demonstrate allied operational cohesion, which could shore up deterrence.

Fourth, there is a need to train and rehearse operations in highly contested environments against a capable foe. In recent years, the Australian government has significantly expanded Australia's east coast training areas for this purpose, especially Shoalwater Bay and a new area being developed west of Townsville.[31]

Fifth, as noted above, the electromagnetic spectrum occupies an increasingly important role in warfare. As the Ukraine War has demonstrated, electronic warfare is a vital component of modern combat operations. Because of its remoteness, low population, and minimal electronic interference, northern Australia offers an ideal environment for testing electromagnetic warfare under realistic conditions. The Northern Territory houses the Delamere Electronic Warfare Training Range, a world-class facility due to its immense size and minimal human interference.

Efforts to develop, deploy, and refine new capabilities and concepts will require a training and exercise infrastructure suited to a changing operational environment. In recognition of this, U.S. Indo-Pacific Command is developing an initiative to link training ranges in the Western Pacific.[32] The Pacific Multi-Domain Training and Experimentation Capability envisions a network of training ranges across the region where joint and coalition forces can

30 Sharon Marris, "Pentagon Eyes Missile Test Role for Australia, *AFP*, August 9, 2023, https://www.barrons.com/news/pentagon-eyes-missile-testing-role-for-australia-30d948fa.

31 See Australian Department of Defense, "Australia–Singapore Military Training Initiative," Department of Defence, https://www.defence.gov.au/defence-activities/programs-initiatives/australia-singapore-military-training-initiative.

32 Substantial improvement to these ranges is ongoing through a variety of initiatives from the ADF, partners of Australia (e.g., Singapore) and others including USINDOPACOM.

train together on the digitally enabled operational concepts that will dominate the future of conflict.[33]

Northern Australia has unique advantages as an environment for training and exercises. There is an opportunity for Australia to develop a world-class training, exercise, and experimentation hub in northern Australia, one linked to the training and exercise infrastructure in the broader region. The biennial multinational military exercise Talisman Sabre, led by Australia and the United States, links these training areas together.[34] Making this a reality will, however, require investments to improve and connect existing infrastructure and create new infrastructure.

Investing in a Robust, Real-Time ISR Network

The Australian government has long recognized the importance of understanding developments in its neighborhood. During World War II, the allies established a chain of over 100 radar installations across northern Australia. The Australian government has for decades operated the JORN, a world-class over-the-horizon radar network that can monitor air and sea movements to Australia's north and west. The *2016 Defence White Paper* reiterated the need for the ADF to maintain real-time awareness of activities within its periphery and beyond before an adversary can gain an upper hand to influence—and even constrain—the ADF's decision-making process.[35] The 2016 Integrated Investment Program reflected the need for the ADF to achieve decision-making superiority across all domains.[36] What is relatively new is the ability for Canberra to capitalize on cutting-edge technologies to deliver round-the-clock situational awareness to support strategic decision-making.[37] Thus, the aforementioned Integrated Investment Program pledged to earmark roughly 9

33 Jason Sherman, "DOD Eyes $2.7 Billion Proposal to Wrap Half the Planet in Multidomain Test Range," *Inside Defense*, April 8, 2020, https://insidedefense.com/daily-news/dod-eyes-27-billion-proposal-wrap-half-planet-multidomain-test-range. See also Philip Davidson, "Transforming the Joint Force: A Warfighting Concept for Great Power Competition," Speech to the West 2020 Conference, March 3, 2020, USINDOPACOM, https://www.pacom.mil/Media/Speeches-Testimony/Article/2101115/transforming-the-joint-force-a-warfighting-concept-for-great-power-competition/.

34 Talisman Sabre 2025 will be the largest and will include participation from both the United Kingdom and Norway.

35 Australian Department of Defence, *2016 Defence White Paper* (Canberra: Department of Defence, 2016), 86–87.

36 Australian Department of Defence, *2016 Integrated Investment Program* (Canberra: Department of Defence, 2016), 28–37.

37 Thomas G. Mahnken, Travis Sharp, and Grace B. Kim, *Deterrence by Detection: A Key Role for Unmanned Aircraft Systems in Great Power Competition* (Washington, DC: Center for Strategic and Budgetary Assessments, April 2020), https://csbaonline.org/research/publications/deterrence-by-detection-a-key-role-for-unmanned-aircraft-systems-in-great-power-competition; and Thomas G. Mahnken, Travis Sharp, Christopher Bassler, and Bryan W. Durkee, *Implementing Deterrence by Detection: Innovative Capabilities, Processes, and Organizations for Situational Awareness in the Indo-Pacific Region* (Washington, DC: Center for Strategic and Budgetary Assessments, July 2021), https://csbaonline.org/research/publications/implementing-deterrence-by-detection-innovative-capabilities-processes-and-organizations-for-situational-awareness-in-the-indo-pacific-region.

percent of its budget to bolster ISR and related capabilities (specifically space, cyber, and electronic warfare).[38]

As discussed below, CSBA recently conducted a series of strategic choices exercises in Canberra and Washington, DC, that explored options for how Australia can respond to the growing threat posed by China's military modernization. Australian and American participants in these exercises viewed ISR as a major priority for Australian defense and made significant investments beyond those contained in the Integrated Investment Program, to include large numbers of unmanned surface vessels (USVs) and UUVs to improve Australia's situational awareness.[39]

For Australia, a robust, real-time ISR network would have several purposes. First, in peacetime, such a network would allow Canberra to monitor developments in its neighborhood. This capability is even more important given the increasing level of Chinese activity near Australia's periphery. As mentioned in Chapter 2, a Chinese naval task group performed live-fire exercises in the Tasman Sea in late February 2025.[40] Canberra pursued a joint response with Wellington, including the deployment of P-8 Poseidon maritime patrol aircraft, which conducted long-duration sorties to monitor PLAN vessels as they circumnavigated Australia.[41] During a Senate estimates hearing on February 24, 2025, Andrew Shearer, the head of Australia's Office of National Intelligence, confirmed that Chinese naval ships had never been spotted that far south before.[42] He suggested this troubling incident created a new paradigm because it is setting the stage for Beijing to regularize these activities near Australia.[43] With the PLA ratcheting up pressure along and within Australia's security perimeter, there will be greater demand for real-time reconnaissance and surveillance of Australia's surroundings.

Second, as CSBA has argued elsewhere, the ability to monitor the region in real time offers the possibility of deterring aggressive action.[44] Information from satellites; aerostats; and unmanned air, surface, and undersea systems equipped with a diverse set of sensors can establish a pattern of life that would allow decision makers to detect malign activity as it occurs.

38 Australian Department of Defence, *2016 Integrated Investment Program*, 28.

39 Toshi Yoshihara, Jack Bianchi, and Casey Nicastro, *Focused Force: China's Military Challenge and Australia's Response* (Washington, DC: Center for Strategic and Budgetary Assessments, 2024), 24.

40 Demetri Sevastopulo and Nic Flides, "Chinese Warships Sail within 150 Nautical Miles of Sydney," *Financial Times,* February 19, 2025, https://www.ft.com/content/fda734fc-6023-4ad9-b3ae-33234ee40505.

41 Gordon Arthur, "Aussie Spy Planes Worked Overtime during Nearby Chinese Naval Drills," *Defense News,* March 28, 2025, https://www.defensenews.com/global/asia-pacific/2025/03/28/aussie-spy-planes-worked-overtime-during-nearby-chinese-naval-drills/.

42 Australian Office of National Intelligence, "Senate Estimates: February 2025: Opening Statement from Mr. Andrew Shearer, Director-General of National Intelligence," February 24, 2025, Office of National Intelligence, https://www.oni.gov.au/news/february-2025-senate-estimates.

43 Australian Office of National Intelligence, "Senate Estimates."

44 Mahnken, Sharp, and Kim, *Deterrence by Detection*.

Australia's JORN provides Australia a very significant regional surveillance capability. Augmenting that radar network, in 2018 Australia committed to procuring an orbit of unmanned MQ-4C Triton aircraft to perform maritime ISR operations and complement P-8 Poseidons.[45] MQ-4Cs can conduct operations for more than 24 hours and cover a search area of over a million square nautical miles.[46] The first MQ-4C Triton was delivered to Australia in July 2024, and a second landed in northern Australia in May 2025.[47] Other potential systems to augment Australia's situational awareness of its maritime approaches include tethered aerostats, USVs, and UUVs such as the Australian *Ghost Shark* program.

Third, if efforts at deterrence fail, the ability to surveil the approaches to Australia can provide enhanced warning of attack, which can, in turn, increase the effectiveness of passive and active defense measures. Timeliness of information is an important measure of the reliability and credibility of intelligence. Given China's aggressive maneuvering near and within Australia's neighborhood, Australia has strategic incentives to rapidly field cutting-edge capabilities to fortify a strong ISR network.

Creating an Expanded, Resilient Defense Infrastructure

As noted above, Australia is far enough from China to be defensible and close enough to the scene of potential conflicts to be operationally relevant.

In recent decades, the United States and Australia have emphasized efficiency in defense infrastructure. For both, this has led to larger and larger concentrations of military forces deployed on a relatively small number of bases that represent lucrative targets to an adversary.[48] Given the worsening security situation in the Indo-Pacific region, Australia needs to shift to a defense infrastructure emphasizing operational effectiveness over efficiency. In other words, Australia needs to invest in an expanded, resilient defense infrastructure in northern Australia, one that includes the digital infrastructure needed to integrate geographically dispersed capabilities across domains and nationalities.

First, there is a need to expand the number of Australian facilities available to Australian, U.S., and potentially other militaries, particularly in northern Australia. Facilities in Australia would be particularly important for supporting long-range strike aircraft such as

45 Stephen Kuper, "1.4bn Commitment to MQ-4C Triton Purchase," *Defence Connect,* June 26, 2018, https://www.defenceconnect.com.au/joint-capabilities/2482-1-4-billion-commitment-to-mq-4c-triton-purchase.

46 Australian Department of Defence, "Triton Remotely Piloted Aircraft System," Department of Defence, https://www.defence.gov.au/defence-activities/projects/triton-remotely-piloted-aircraft-system.

47 Australian Department of Defence, "Australia's First MQ-4C Triton," Department of Defence, July 31, 2024, https://www.minister.defence.gov.au/media-releases/2024-07-31/australias-first-mq-4c-triton; and Robert Dougherty, "Post-election Delivery: Second MQ-4C Triton Touches Down Quietly at RAAF Tindal," *Defence Connect,* May 5, 2025, https://www.defenceconnect.com.au/air/15985-post-election-delivery-second-mq-4c-triton-touches-down-quietly-at-raaf-tindal.

48 Carl Rehberg and Josh Chang, *Moving Pieces: Near-Term Changes to Pacific Air Posture* (Washington, DC: Center for Strategic and BudgetaryAssessments, November 2022).

the B-2 Spirit or B-21 Raider, as well as high-value support aircraft such as refueling and sensor aircraft.

FIGURE 5: ROYAL AUSTRALIAN AIR FORCE F-35A LIGHTNING II AIRCRAFT TAXI AT RAAF BASE DARWIN DURING EXERCISE DIAMOND STORM 24

Source: Royal Australian Air Force

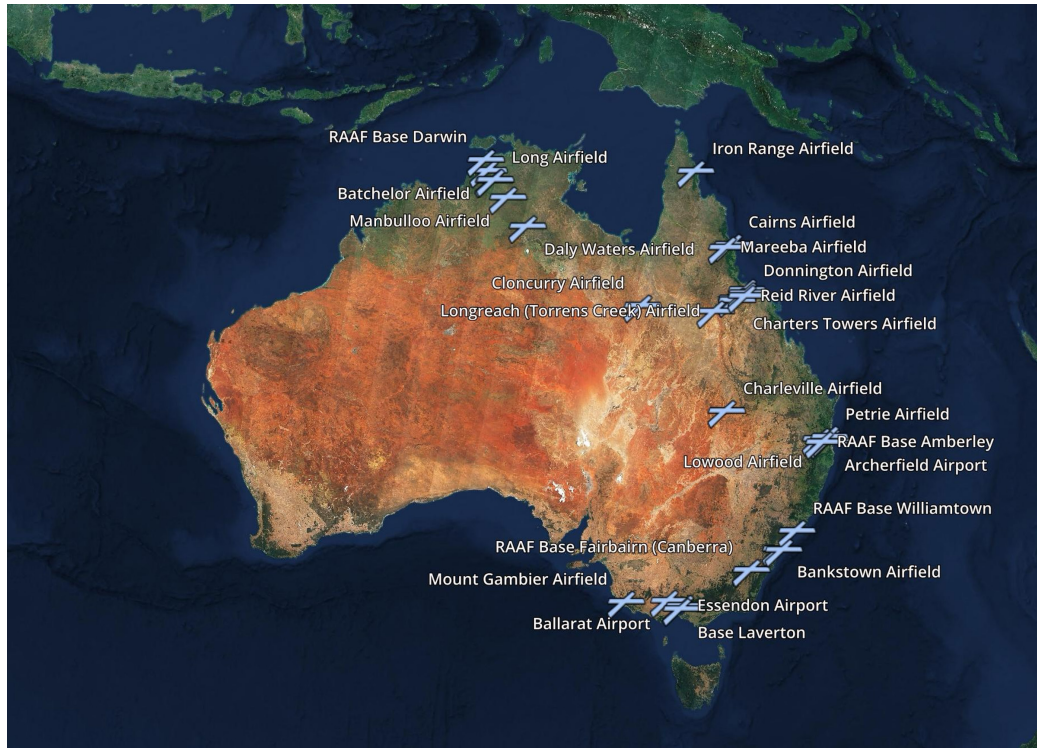
In recent years, the U.S. Air Force has embraced Agile Combat Employment (ACE), which emphasizes operations from dispersed airfields to create uncertainty in the mind of an adversary while reducing the vulnerability of forward-staged forces. Much recent activity has focused upon implementing ACE through a network of small, dispersed airfields in the Western Pacific, including the large-scale renovation of the runways on Tinian. Such locations have the virtue of being relatively close to the scene of a conflict in Taiwan Strait, but they face questions regarding their survivability in wartime and the challenge of conducting fueling, rearming, and maintenance in dispersed, austere locations.

Northern Australia is an ideal location for putting ACE into practice (see **Figure 5**). Implementing this concept in northern Australia offers three potential benefits. First, bases located farther from China would face less threat than those close to the Asian continent. Second, the vast territory of northern Australia offers many possible locations for airfields, making hiding and moving aircraft much more realistic than on small Pacific islands. Third, such a base network could be linked to a significant logistical and maintenance infrastructure drawn from the Australian economy as a whole. Were Australia to build up northern Australia in a serious way, it would render a Chinese suppression campaign against Australian bases extremely difficult. A robust basing infrastructure combined with air and

missile defenses would compound the costs that Beijing would face while conducting very long-range strikes.

The history of Australia during World War II offers a useful point of comparison. As **Figure 6** shows, during the war the U.S. Army Air Forces operated out of 30 airfields spread across Australia's north and east coasts.

FIGURE 6: U.S. ARMY AIR FORCES AIRFIELDS IN AUSTRALIA DURING WORLD WAR II



Source: Ceated by CSBA with base geocoordinates provided by Wikipedia.

Today, the Royal Australian Air Force (RAAF) operates a relatively small number of main operating bases, augmented by a series of bare bases. Although there are efforts underway to upgrade and expand Australia's military infrastructure and make it more resilient, they do not match the threat in scope, scale, or urgency. The 2023 *Defence Strategic Review* recommended upgrading and hardening Australia's northern network of bases, ports, and barracks, including the Cocos Islands in the northwest, through RAAF bases Learmonth, Curtin, Darwin, Tindal, Scherger, and Townsville. To support this posture, the *Defence Strategic Review* called for expanded fuel storage infrastructure and munitions and ancillary infrastructure in central and northern Australia, using suitable existing state and territory government and civil infrastructure. It also highlighted the need to improve logistics

and sustainment capabilities in central and northern Australia.[49] The Integrated Investment Program that accompanied the *2024 Australian National Defence Strategy* included $14–18 billion to improve the ability to operate from Australia's northern bases over the decade from 2024–2033.[50] That is a good start, but more resources will likely be needed.

An expanded, resilient defense infrastructure in northern Australia should be sized to serve the needs of not just the ADF but also of the United States and other partners from the region and beyond. This should include requirements for accommodation, messing, and parking for the full gamut of forces. As it stands, the ADF cannot house its own forces on base, let alone those of allies and partners.

One way to increase resilience is to expand the number of facilities—airfields, ports, and logistics and maintenance facilities—that could be used in time of war. Here, too, World War II offers a useful example. As **Figure 7** illustrates, U.S. and Australian forces constructed some two dozen airfields along the Stuart Highway south of Darwin, including what is now RAAF Tindal. Moreover, each state provided a construction capability to assist and to build the roads that went north from Adelaide and east from Townsville.

FIGURE 7: WORLD WAR II AIRFIELDS IN THE NORTHERN TERRITORY

Source: Created by CSBA based upon map at https://www.ozatwar.com/ozatwar/livingstone.htm

49 Australian Department of Defence, *National Defence*, 60.

50 Australian Department of Defence, *2024 Integrated Investment Program* (Canberra: Department of Defence, 2024), 15.

Some bare-base capacity for a sudden influx of U.S. forces in time of crisis or war is essential. As a point of reference, 900,000 Americans were stationed in Australia in World War II. A future contingency could involve tens of thousands of American service members deploying to Australia in support of combined operations. Unfortunately, there is little to no capacity to accommodate them, and it will take time to activate and expand Australia's northern basing infrastructure.[51]

The existence of bases is necessary, but insufficient. There is also a need to be able to sustain military operations at those facilities. In other words, air and maritime forces operating from northern Australia need to have ready access to fuel, munitions, spare parts, and maintenance crews. Similarly, there is a need for modularized, easily transportable integrated fuel, water, and energy modules to support small but lethal strike units across Australia's north. The ability to harness advanced manufacturing techniques such as 3D printing to produce spare parts in the field would also ease logistical challenges.

Fielding an Integrated Air, Drone, and Missile Defense System

These facilities will increasingly need to be protected. As CSBA has recently discussed in depth, protecting facilities against the growing threat of complex salvoes of unmanned air systems, cruise and ballistic missiles, and aircraft is a challenging task.[52] A successful approach to doing so will require a mixture of passive defense measures, such as hardening and dispersal, as well as active defense.

To be successful against the range of threats that China presents, IAMD systems will need to adopt a new approach. Current IAMD plans rely on defensive interceptors that cost too much, deliver too little, and do not sufficiently address the growing threat of massed (or salvo) air and cruise missile attacks. Alternative approaches should include layered, comprehensive, and distributed IAMD concepts that address the full spectrum of threats. The new concepts should be built around concentric rings (or layers): an outer ring that can detect and engage hostile targets far beyond the range of ground-based defensive systems located at or near a threatened base, a middle ring that can protect the area immediately surrounding that base, and an inner ring that provides point defense against specific targets on that base.[53] IAMD is a major deficiency of the ADF that requires U.S. investment and know-how.

Acquiring a Tailored Force Projection and Strike Portfolio

Defensive measures will be insufficient for Australia to serve as an Indo-Pacific stronghold. It will also need to invest in a portfolio of long-range strike capabilities. The Integrated

51 Ryan, "Darwin Strategic Bastion," 188.

52 Rehberg and Chang, *Moving Pieces*, chap. 3; and Rehberg and Kemp, *Strengthening the Phalanx*.

53 Rehberg and Kemp, *Strengthening the Phalanx,* iv.

Investment Program that accompanied the *2024 Australian National Defence Strategy* includes $28–35 billion for targeting and long-range strike over the decade from 2024–2033.[54] More will likely be needed. Indeed, Australia will likely require a diversified portfolio of strike capabilities, one that incorporates high-capability systems and those that can be produced and employed en masse, crewed and uncrewed systems, and imported systems and ones produced in Australia.

Australia's geographic isolation dictates that it must project power over long distances. That, however, is expensive. It is axiomatic that longer range missiles cost more than short-range ones. The same is true with aircraft, ships, and submarines. If Australia needs to project power within its region and beyond, it will need to invest in long-range systems.

Long-range strike also extends into the land domain. The Australian First Division, a five-brigade division that operates with the U.S. I Corps, is now solely expeditionary in focus.[55] Australia is also a critical force projection location for the U.S. Marine Corps and U.S. Army.

As noted above, CSBA recently conducted strategic choices exercises in Canberra and Washington, DC, to assess Australia's options for responding to the growing Chinese threat. Five of the six teams that participated in the exercise agreed Australia had to increase the ADF's ability to hold an adversary at risk farther from Australian shores and to deter an enemy from projecting power through Australia's northern approaches. To strengthen Australia's deterrent posture, especially in the maritime domain, most teams saw the need for the ADF to undertake long-range maritime strikes against both land and sea targets. Indeed, all six teams invested in some form of long-range strike capability.[56]

More needs to be done to define what Australia's long-range strike portfolio should look like. If the mission of Australian strike forces is to defend Australia's northern approaches, then the combination of existing and planned aircraft, naval vessels, and short-range ground fires is likely sufficient. However, the growing threat to Australia likely calls for a more robust capability. If Australia needs the ability and flexibility to reach the South China Sea or the Asian mainland, then the ADF is woefully unprepared. In short, Australian policymakers need to better define their requirements and then tailor their strike portfolio to meet them.

Aircraft

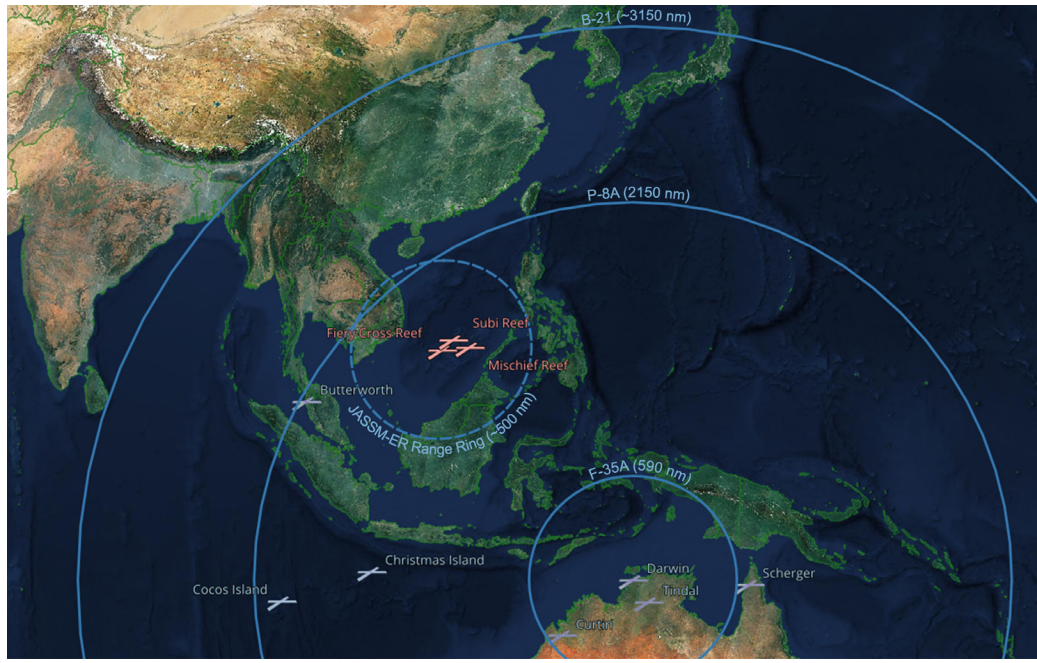
Australia has historically acquired and operated long-range maritime strike aircraft. Between 1968 and 2010, the Royal Australian Air Force operated the F-111C Aardvark. The F/A-18F Super Hornet and F-35A Lightning II that replaced them have ranges significantly shorter than the F-111.

54 Australian Department of Defence, *2024 Integrated Investment Program*, p. 15.

55 See, for example, Collingburn and McDermott, "Australia's Army Is Adapting for the Littorals."

56 Yoshihara, Bianchi, and Nicastro, *Focused Force,* 22.

FIGURE 8: UNREFUELED COMBAT RADII FROM RAAF BASE DARWIN



Source: Created by CSBA. Ranges for all systems are from IHS Janes database.

Australia is currently equipping its fourth- and fifth-generation aircraft with long-range air-to-surface weapons to expand their strike range. The Royal Australian Air Force is equipping its F/A-18s and F-35s with the AGM-158B Joint Air-to-Surface Strike Missile-Extended Range and AGM-158C Long-Range Anti-Ship Missile (see **Figure 8**). The operational range and endurance of these aircraft are nonetheless limited by their own range and their reliance on aerial refueling tankers. The small size of the Australian tanker fleet would constrain the ability of Australian F-35s and F/A-18s to operate over long ranges.

Australia could extend the reach of these aircraft by forward deploying them at a regional base outside Australian territory. However, an expeditionary squadron's operational value would depend on the whims of host nations and be exposed to withering Chinese firepower if the squadron were deployed inside the PLA's weapons engagement zone.

In the future, Australia could acquire sixth-generation long-range strike aircraft like the B-21 Raider from the United States. Although the Air Force has not publicly disclosed the operational parameters of the aircraft, it seems likely that it has a range and payload significantly greater than the F-35 and F/A-18, all-aspect stealth, and other advanced features. Indeed, recent CSBA operational analysis concluded a single squadron of B-21s delivered more payload across a 30-day campaign in the South China Sea than the entire Australian baseline air force structure.[57]

57 Yoshihara, Bianchi, and Nicastro, *Focused Force*, 60.

FIGURE 9: ROYAL AUSTRALIAN AIR FORCE AND U.S. AIR FORCE AIRCRAFT FLYING IN FORMATION OUT OF RAAF BASE AMBERLEY

Source: Royal Australian Air Force.

That having been said, Australia's opportunity to acquire B-21s may be fleeting. Press reports indicate the U.S. Defense Department is debating the size of the B-21 fleet and the production rate of the aircraft. It is likely that the U.S. government will soon make decisions about B-21 production capacity and rate that will determine if, when, and how many of the bombers Australia can acquire. If Australia wants to preserve the option of acquiring B-21s, it will need to decide soon.

An alternative to Australia acquiring its own B-21s, or a step leading to such a capability, would involve hosting U.S. B-2 and B-21s (see **Figure 9**). This would require Australia to equip its air bases with the facilities necessary to operate and maintain them, including deployment of the sort of sophisticated air, drone, and missile defense system described above.

Submarines

The Royal Australian Navy currently operates *Collins*-class diesel submarines and is on the path to acquiring *Virginia*-class submarines that could be used for strike missions. Submarines have several advantages for long-range strike missions. They can operate undetected at great ranges over long periods and strike land, surface, and subsurface targets. In addition to striking, submarines can defend chokepoints, interdict enemy shipping, screen

friendly naval forces, lay mines, insert special operations forces, and collect intelligence. They can enter and loiter in a contested operational area. They can impose virtual attrition on an adversary: their reported presence or the threat of their presence could compel an opponent to avoid certain areas or increase resources to protect its own forces.

However, limits on payload and sortie generation, as well as a small fleet size, constrain the submarine option for Australia. Australia's future *Virginia*-class submarines, which will not be equipped with the *Virginia* payload module, could theoretically launch about 37 Tomahawk land-attack cruise missiles from its vertical launch cells and torpedo tubes. In reality, the payload delivered probably would be smaller: Royal Australian Navy subs would almost certainly carry torpedoes for self-defense. The expected slow growth of Australia's nuclear submarine force is another constraint. By 2035, the ADF will have at most two *Virginia*-class submarines in its inventory.[58]

Intermediate-Range Ballistic Missiles

Australia could also choose to acquire IRBMs to bolster its long-range strike arsenal.[59] Given its range and speed, an IRBM would enable the ADF to promptly strike fixed and mobile targets throughout Australia's primary area of operations. If based in northern Australia, a hypothetical IRBM with a maximum range of 4,000 kilometers, comparable to the People's Liberation Army Rocket Force's DF-26, could place at risk PLA surface combatants at sea and bases in the South China Sea. An IRBM's high reentry speed is valuable for penetrating the IAMD systems that protect PLA bases and other high-value targets, such as command and communications nodes. Furthermore, road-mobile IRBMs could leverage the island continent's vastness to avoid enemy detection and counterstrikes, thereby shoring up survivability.

The IRBM's operational value lies in the ability to deliver devastating first blows against a small number of critical targets to set the stage for sustained follow-on strikes by other platforms. A relatively modest land-based missile force may be adequate for such a role. Payload capacity delivered over time is thus probably not a meaningful measure of the IRBMs' relative efficacy. A more relevant metric may be the initial salvo size and its expected effectiveness against a few vital enemy assets.

That having been said, IRBMs are expensive. Acquiring them would require either a major increase in defense resources or divestments from the AUKUS program to acquire them. Moreover, it is unlikely that Australia could acquire them rapidly: They are not even on the drawing board. Moreover, institutional, bureaucratic, cultural, political, and diplomatic barriers might stand in the way of adopting radically new capabilities, especially given the importance and attention accorded to AUKUS.

58 Yoshihara, Bianchi, and Nicastro, *Focused Force,* 63.

59 Yoshihara, Bianchi, and Nicastro, *Focused Force,* 64.

Uncrewed Systems

The Ukraine War has demonstrated the increasing value of unmanned systems on the battlefield. The United States and other militaries are expanding their investments in unmanned systems. Accordingly, Australia could substantially increase its investment in uncrewed systems and field very large numbers of unmanned air systems, USVs, and UUVs. As noted above, such systems would have considerable value as ISR platforms to increase situational awareness of Australia's northern approaches. They could also be used for strike missions.[60]

That said, an uncrewed strike force would need to be sized and shaped to mission requirements. Whereas short-range systems would suffice for engaging enemy forces close to Australia's shores, keeping an adversary at arm's length would require more capable, longer range, and more expensive systems.

Regardless of the mix of long-range strike systems that Australia requires, supporting them will likely require more infrastructure in Australia's north. Even the more modest forms of force projection would need to operate over a massive area along Australia's northern approaches. That will require more bases and facilities in the north to bring strike assets closer to the scene of action. They will also require more places to operate from to complicate PLA sensing and strike. Developing and upgrading facilities takes time, so there is an urgent need for the Australian government to move out to expand its northern bases and support facilities.

Enhancing Australia's Ability to Sustain Operations

Logistics will be key to victory in a future conflict; all too often, however, planners have neglected the role that logistics and sustainment play in strategy and operations.[61] Logistical support will be crucial to sustaining operations in the Western Pacific, particularly in a protracted conflict. Today as in the past, Australia can serve as a vital logistical hub to sustain allied military operations. The U.S. Army has established a new prepositioned logistical base in southeast Australia, with potentially more to come.[62]

Northern Australia has the advantage of being close to the scene of potential conflicts. Should it be developed into a logistical hub, it could provide vital wartime support to coalition forces, including loading and unloading cargo ships, airfield operations, ship repair, reception and dispatch of battlefield replacements, and deployment of replacement aircraft

60 As noted above, participants favored purchasing USV and UUV in large numbers for ISR missions; such systems could also be used for strike.

61 Zachary S. Hughes, "Giving Our 'Paper Tiger' Real Teeth: Fixing the U.S. Military's Plans for Contested Logistics against China," *Joint Force Quarterly* 114, no. 4, 2024, 28–45.

62 See Reuters, "U.S. Military Stockpiling Supplies in Australia in Readiness for Any Confrontation with China," *The Guardian*, February 1, 2024, https://www.theguardian.com/australia-news/2024/feb/01/us-military-stockpiling-supplies-australia-china-confrontation.

and equipment.[63] As noted above, such a bastion would need to be protected against air, drone, and missile threats to endure in wartime.

Safeguarding lines of communications between Australia and the United States will be indispensable to sustaining military operations in the Western Pacific. Australia can be a key enabler of U.S. efforts if it can maintain access to its sea lines of communication in the southwest Pacific region.[64]

Some upgrades are underway. For example, in October 2022 it was reported that the United States plans to construct parking areas to accommodate the deployment of up to six U.S. B-52 bombers at RAAF Tindal.[65] The United States is also reportedly funding other infrastructure improvements, including upgraded runways, warehouses, and maintenance facilities.[66] Moreover, the ability to maintain and repair U.S. warships forward, without having to return to the United States, could be extremely important in a protracted conflict. Relatedly, Australia's development of a shore-based submarine maintenance infrastructure will benefit not just the Australian submarine force, but also American and British nuclear-powered submarines. For example, Michael Pezzullo has suggested Australia declare the planned nuclear submarine shipyard in Henderson, Western Australia, to be a joint Australia–U.S. facility to perform deep maintenance of nuclear submarines.[67] Such efforts will need to gain scale and momentum if they are to provide capabilities needed by the alliance in the near term.

Australia also can support allied operations through the production and forward stockpiling of munitions. The Integrated Investment Program that accompanied the *2024 Australian National Defence Strategy* includes $16–21 billion over the decade from 2024–2033 to fund the Australian Guided Weapons and Explosive Ordnance (GWEO) enterprise, including domestic manufacture of select weapons and components.[68] Initially announced in March 2021, the GWEO plan publicized in October 2024 articulated a "strategic rationale" behind pursuing this ambitious enterprise, along with guiding principles regarding its imple-

63 Ryan, "Darwin Strategic Bastion," 188.

64 Stephan Frühling, "U.S.—Australia Alliance Force Posture, Policy and Planning: Toward a More Deliberate Incrementalism," Carnegie Endowment for International Peace, September 17, 2024, https://carnegieendowment.org/research/2024/09/us-australia-alliance-force-posture-policy-and-planning-toward-a-more-deliberate-incrementalism?lang=en.

65 Angus Grigg, Lesley Robinson, and Meghna Bali, "U.S. Air Force to Deploy Nuclear-Capable B-52 Bombers to Australia as Tensions with China Grow," *Australian Broadcasting Corporation*, October 30, 2022, https://www.abc.net.au/news/2022-10-31/china-tensions-taiwan-us-military-deploy-bombers-to-australia/101585380.

66 Kirsty Needham, "U.S. Military, Seeking Strategic Advantages, Building Up Australia's Northern Bases amid China Tensions," *Reuters*, July 26, 2024, https://www.reuters.com/world/us-military-seeking-strategic-advantages-builds-up-australias-northern-bases-2024-07-26/.

67 Michael Pezzullo, "How to Help the U.S. Navy as It Helps Us: Build a Joint Submarine Facility," Australian Strategic Policy Institute, May 16, 2025, https://www.aspi.org.au/strategist-posts/how-to-help-the-us-navy-as-it-helps-us-build-a-joint-submarine-facility/

68 Australian Department of Defence, *2024 Integrated Investment Program*, 15.

mentation. As part of this effort, Australia will develop an indigenous capacity to produce long-range artillery, with two factories fully operational by 2029.[69] Separately, the United States and Australia have signed memoranda of understanding to accelerate the coproduction of M795 155 mm ammunition and the Guided Multiple Launch Rocket System.[70]

Existing efforts are, however, likely to be insufficient to the needs of a major conflict. Participants in CSBA's recent strategic choices exercises in Australia and the United States agreed that Australia needs to act with a greater sense of urgency to enhance its logistics and sustainment infrastructure, particularly in the north.[71] Most of the teams in the exercises favored increasing investment in logistical support, including the construction of additional fuel and munitions storage and the expansion of maintenance facilities.[72]

Any effort to expand the logistics and sustainment infrastructure in northern Australia will have to confront the challenges facing military operations in the Northern Territory, both in peacetime and in time of war. Despite efforts over the last decade to expand the transportation infrastructure in northern Australia, it remains brittle; this could hinder the ability of the ADF and U.S. forces to sustain operations out of the region.[73] This is particularly true during the summer monsoon season in northern Australia, which degrades not only logistical links but also military operations more broadly. Northern Australia must also contend with challenging tidal conditions that constrain maritime operations.[74]

Another challenge facing logistical support operations in northern Australia is labor scarcity, particularly in the defense sector. Although defense-related employment has grown at the national level, in 2024 the number of workers available to fill defense-specific jobs in Darwin and the Northern Territory was at its lowest rate since 2006.[75] Should this labor shortage persist, it could lead to delays in upgrading maintenance and storage facilities and present operational challenges for the ADF and U.S. forces in times of crisis or war.

69 Australian Department of Defence, *The Australian Guided Weapons and Explosive Ordnance Plan* (Canberra: Department of Defence, 2024), 5.

70 U.S. Army Public Affairs, "United States and Australia Ink Historic Defense Manufacturing Agreements," U.S. Army Public Affairs, March 19, 2025, https://www.army.mil/article/283837/united_states_and_australia_ink_historic_defense_manufacturing_agreements.

71 Yoshihara, Bianchi, and Nicastro, *Focused Force,* 24.

72 Yoshihara, Bianchi, and Nicastro, *Focused Force,* 24.

73 Office of Northern Australia, *Northern Australia Action Plan: 2024–2029* (Darwin: Office of Northern Australia, 2024), 28.

74 Australian Department of Defence, "Allies Eye Key Logistics Sites in Australia's North," Department of Defence, February 27, 2025, https://www.defence.gov.au/news-events/news/2025-02-27/allies-eye-key-logistics-sites-australias-north.

75 Darwin Major Business Group, "2025 Update," Darwin Major Business Group, March 2025, https://irp.cdn-website.com/39e9a503/files/uploaded/DMBG_-_Over_the_Horizon_2025_FINALc.pdf, p. 40.

A final challenge involves the Chinese firm Landbridge's lease of the port of Darwin. Concerns over Chinese influence over the port will serve as a major constraint on the willingness of the U.S. armed forces to utilize its facilities.

Notwithstanding these constraints, Australia's strategic location offers considerable advantages to support and sustain military operations in the Pacific. Investments in expanding the logistical support infrastructure in northern Australia offers the ability to both deter conflict and prevail should war nonetheless come.

In sum, an Indo-Pacific stronghold in northern Australia would serve as a venue where friendly forces train and experiment in peacetime, as the base from which they deploy, and as a hub that sustains them in wartime. To ensure its effectiveness, it must have the ability to sense its surroundings and beyond, defend itself if attacked, and project and sustain power in time of war.

CHAPTER 4

Conclusions and Recommendations

In peacetime, northern Australia adds considerable value to the Australia–U.S. alliance as a strategic hub for alliance training, exercises, and experimentation. In addition, operations from northern Australia will play a key role in providing situational awareness and increasing warning time. Transforming northern Australia into an Indo-Pacific stronghold will require Australia to invest in creating an expanded and resilient defense infrastructure suited to the demands of 21st century warfare, acquiring a tailored long-range strike portfolio, and enhancing Australia's ability to sustain operations in a protracted conflict.

With China's expanding reach and the growing possibility of conflict, Australia can no longer ignore the possibility that it will be attacked. This report has highlighted Australia's opportunity to leverage its geographic advantages to enhance deterrence and defend its sovereignty should it be jeopardized. Australia can capitalize on its strategic location at the crossroads of the Indo-Pacific by:

1. creating a world-class training, exercise, and experimentation infrastructure to help Australia and its allies;
2. investing in a robust, real-time ISR network to warn of threats to Australia and its neighbors;
3. creating an expanded, resilient defense infrastructure suited to 21st-century warfare;
4. fielding an integrated air, drone, and missile defense system to protect key facilities, enhance survivability, and complicate the Chinese calculus when considering strikes;
5. acquiring a tailored force projection and strike portfolio; and
6. enhancing Australia's ability to sustain operations in a protracted conflict.

Implementing these recommendations will be a significant undertaking for Australia, but the pace of the threat demands that the Australian government move with a sense of urgency. Australia is taking steps in the right direction by acquiring nuclear-propelled conventionally armed submarines, by developing and producing sovereign strike capabilities through GWEO, and expanding defense infrastructure in the Northern Territory. More, however, needs to be urgently done to transform Australia into an Indo-Pacific stronghold.

LIST OF ACRONYMS

ACE	Agile Combat Employment
ADF	Australian Defence Force
CSBA	Center for Strategic and Budgetary Assessments
CNMI	Commonwealth of the Northern Mariana Islands
FSM	Federated States of Micronesia
GWEO	Guided Weapons and Explosive Ordnance
IAMD	integrated air and missile defense
IRBM	intermediate-range ballistic missile
ISR	intelligence, surveillance, and reconnaissance
JORN	Jindalee Operational Radar Network
PLA	People's Liberation Army
PLAN	People's Liberation Army Navy
RMI	Republic of the Marshall Islands
USV	Unmanned surface vessel
UUV	unmanned underwater vehicle

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