Disclaimer: The following piece was originally written while the author was a student at the Army War College as part of a group study with the pending publication of a manuscript on preparing for protracted conflict with China. The author has not changed or updated any details since graduation in June 2024. This piece is published with the consent of the lead professor for this project at the Army War College in anticipation of the book being published by the Strategic Studies Institute.

Preparing for Protracted Conflict with China and the Air and Missile Defense Shortfalls

By COL Trey Guy

The joint and combined Air Defense formations in the Pacific are currently under-prepared and demand immediate attention. These formations lack the necessary collaborative relationships and synergy to form a robust Anti-Access/Area Denial (A2AD) deterrent to the Chinese Communist Party (CCP) in the event deterrence fails and there is conflict in the region. This is not an exaggeration, as this chapter will demonstrate, but it is also not a declaration of defeat to say that all is lost.

The U.S. military's ability to provide air and missile defense (AMD) coverage for the U.S. and its allies could potentially face significant challenges. As we shift our focus to the Indo-Pacific region to counter the growing threat from the People's Liberation Army (PLA), preparing for the possibility of protracted conflict becomes crucial. This requires a deep understanding of Joint Publication 3-01: "integration of capabilities and overlapping operations to defend the homeland and US national interests, protect the joint force, and enable freedom of action by negating an enemy's ability to create adverse effects from their air and missile capabilities."[1] Are we already in a protracted conflict with the CCP? Some senior leaders suggest that we are in the early stages, which may not be immediately apparent to all.[2]

China possesses the capability to affect the entire Indo-Pacific region through a robust and technologically advancing arsenal. The threat capabilities that directly affect Air Defense include Fixed Wing and Rotary Wing (FW/RW), Unmanned Aerial Systems (UAS), Cruise Missiles (CM), Ballistic Missiles (BM), and Hypersonic variants of BMs at the disposal of the PLA and the PLA Rocket Force (PLARF).[3] Additional threat domains of space and cyber will affect air defense formations and commands throughout the region, and fighting will occur in every domain.[4] The Air Defense branch, which is 1.8% of the Army, cannot concentrate on everything.[5] For many years during the Global War on Terror, the Air Defense branch was single-mindedly focused on the Theater Ballistic Missile (TBM) threat, and only recently did effects by Unmanned Aerial Systems (UAS) start to shift the focus on the bevy of future contemporary threats.[6] Joint Air Defense forces primarily focus on the BM threat, with a recent rising secondary focus on counter-UAS (C-UAS).[7] This is shown by the fact that nearly half of the Air Defense branch is deployed or is preparing for deployment to protect Combatant Commands' (CCMD) strategic assets, most notably Central Command and European Command.[8] Additionally, the U.S. Navy-guided missile destroyers and Aegis vessels are conducting more intercepts of BM and UAS in the CENTCOM AOR.[9] All this is done while U.S. strategic guidance refers to the China as "…the only competitor with both the intent to reshape the international order and, increasingly, the economic, diplomatic, military, and technological power to do it."[10]

When studying the potentiality of future protracted conflict with the PLA, especially when looking at the problems facing air defense of tactical, operational, and strategic priorities, it is essential to realize that the U.S. has looked at this problem before. In the lead-up and early years of World War II, air defense (then called Coastal Artillery) was a nascent capability.[11] The U.S.'s arduous campaign against the Empire of Japan is helpful for studying the potential future conflict versus the China. After the Japanese surprise attack on Pearl Harbor on December 7, 1941, the war became a protracted conflict that lasted 45 months.[12]

To understand what is needed to face the potentiality of a protracted conflict against the CCP, it is necessary to complete an exploration of the historical context, strategic significance, and challenges faced in the Pacific theater. For a historical context, Coastal Artillery, the forebearers of Air Defense Artillery, played a pivotal role in the strategic defense of critical locations in the Pacific before and during World War II.[13] We need to examine and understand the pre-war preparedness and apply the lessons learned from the early shortcomings of Coastal Artillery units during the early stages of World War II to prepare for potential future conflict with China.[14]

In the lead-up to the war with Japan, the United States (U.S.) decided to garrison outposts in the Pacific. Two of the most critical locations for the U.S. are the same as they are today: Hawai'i and the Philippines.[15] The Philippines archipelago's strategic importance necessitated the establishment of robust coastal defense installations in crucial areas. These defenses were designed to protect the islands, secure vital sea routes, and maintain control over the region, akin to what China is attempting to do with their claim to islands in the nine-dash line.[16] The

United States used the Hawaiian Islands as a pivotal hub in the Pacific.[17] Coastal Artillery fortified positions along the coastline, protecting the naval and air assets stationed on the island of Oahu.[18] The defense of the Hawaiian Islands was paramount to maintaining control and projecting power across the vast expanse of the Pacific.[19] The static defenses of these locations and the changing nature of warfare leading up to the war with Japan meant that many forward thinkers were eschewed, and the technological advances were not yet fully incorporated.[20]

Strategic complacency often led to underestimating enemy capabilities and disregarding the results of wargames and simulations. This complacency proved to be a critical factor in the surprise attack on Pearl Harbor.[21] Coastal defenses were vulnerable, as highlighted by the surprise attack on Pearl Harbor and the Philippines in December 1941.[22] The strategic significance of the attack lay in its crippling effect on the Pacific Fleet and the Air Forces in both Hawaii and the Philippines. A large percentage of the Pacific Fleet in port at Pearl Harbor was damaged but not destroyed.[23] The U.S. Army Air Forces in both Hawaii and the Far East suffered catastrophic damage due to still being on the ground during the attacks with limited Coastal Artillery units designated to provide an anti-aircraft duty to protect them.[24] The command structure for Coastal Artillery and Army Air Force units was a glaring issue during the early stages of conflict with Japan. Based on the British interceptor model, it was convoluted and fragmented, with the necessary information taking too long to get to all who needed it.[25] This glaring issue of command fragmentation noted in World War II has not necessarily improved.

As we reflect on the lessons learned from World War II in the Pacific, it becomes imperative to consider their relevance in the context of potential future conflicts, particularly with a rising power like China. The strategic importance of coastal regions, the need for robust defense systems, and the impact of technological advancements underscore the ongoing significance of these historical insights. Just as Coastal Artillery played a crucial role in the Pacific during World War II, future strategy must incorporate the lessons of history to effectively address the new and future challenges posed by emerging threats and evolving technologies. The dynamic nature of geopolitics with a peer adversary demands a commitment to learning from the past to build resilient defenses capable of securing strategic interests in an ever-changing world.

There are a multitude of definitions describing protracted war/conflict. Mao Zedong referred to the protracted conflict as "The war [China-Japan] is specifically a war of life and death between semi-colonial and semi-feudal People's Republic of China and imperialist Japan."[26] The International Committee of the Red Cross (ICRC) describes protracted conflict as "Protracted" armed conflicts that may be episodic, cyclical, "frozen," long-lived insurgencies, long-standing situations of occupation, or wars between States where violence simmers at a relatively lower level than one might traditionally associate with armed conflict."[27] Both definitions are helpful as we attempt to understand the nature of protracted conflict and how it applies to air defense. From Mao's definition "specifically a war of life or death" should be applied with the ICRC definition "where violence simmers." Both will likely be true due to a perceived unwillingness to expand the kinetic threat outside of the Pacific theater and a need from the U.S. and allies to bring in resources to continue to resist China's aggression.

Aside from the historical vignette of the strategic failures in the lead-up and early part of WWII, there are two current models for what air defense could provide to help shape a protracted conflict. The use of drones, rockets, ballistic missiles, and other air threats in both the Ukraine–Russia war and the Israeli–Hamas conflict are all tools that will likely be used in a protracted conflict in the Pacific. The air defenses used by Ukraine and Israel in their respective conflicts to neutralize and defeat these threats continue to help both nations counteract the devastating effect that these threats can produce at the tactical through the strategic level.

Assumptions and Scenarios

The primary assumption of protracted conflict with China concerns the timeline. If they cannot achieve their objectives without fighting, the CCP will aim for a short and potentially sharp conflict that concludes with the unification of Taiwan.

Three viable scenarios for conflict with the CCP could happen, each with pros and cons and the likelihood of coming to fruition. These scenarios, briefly covered below, are discussed in detail later in the paper:

- **Chinese lodgment on Taiwan, but the People's Liberation Army (PLA) has not taken Taipei. Initial wave(s) from Chinese forces landed and are ashore. Successive waves were heavily interdicted, disrupted, and attritted to such an extent that they could not generate enough combat power to take Taipei.**

- **China cannot force sustainable lodgment on Taiwan due to heavy losses. Due to extreme losses of personnel, the CCP is likely to direct the expansion of the scope of conflict with Ballistic Missile, UAS,**

and Cruise Missile strikes against the U.S. and its allies in the Pacific region.

• PLA forces seizes Taiwan before the U.S. and other allies/partners in the Pacific can react. Small-scale insurgency is still ongoing in Taiwan, but allies and partners must now fight from a disadvantage.

The likelihood of the third scenario happening without the indicators and warnings allowing the U.S. and allies to react is relatively low. Additionally, with the fait acccompli completed concerning Taiwan, the CCP would likely sue for peace to avoid further losses on either side. While peace would not likely be a tenable position for the U.S., other allies and partners in the Pacific and globally would likely move to accept it to prevent a global conflict. The U.S. and other allies should focus on bolstering the defenses and resources of the region to provide a base of support to continue fomenting the Taiwanese insurgency. The drastically low likelihood and the need to build up a long supply chain leave little further to discuss with the third scenario. The first and second scenarios differ considerably concerning the scope and scale of conflict for air defense.

With the first scenario, the CCP will likely not want to exacerbate tensions further, and thus, the threat of the conflict expanding outside of Taiwan is likely less. The ramifications would be that the U.S. and allies can continue to move air defense interceptors intra-theater to supply the most vulnerable areas. This would entail assuming risk in areas and relying on allies and partners both in the U.S. Indo-Pacific Command (USINDOPACOM) area of responsibility and outside the region. This assistance from allies and partners worldwide to help stockpile interceptors and parts would be needed until the U.S. defense industrial base can increase the necessary production levels to sustain the missile and spare part inventory required globally. In this scenario, the U.S. Navy would be less likely to detach any BMD capability in order to protect the Carrier Strike Groups (CSG).

The second scenario will probably be even more dire for the U.S. and allies within the USINDOPACOM region and even more reliant on support from global allies and partners initially. This is likely due to the PLA's inability to complete any aspect of a successful unification with Taiwan. Therefore, it is expected to try to strike other targets in the AOR to weaken the partnerships. The intra-theater movement of munitions and spare parts would likely not be recommended during this scenario. The U.S. and other nations would need the support of different countries with Patriot and other AMD weapons systems earlier due to a higher potential for Chinese strikes throughout the AOR. Aegis and other BMD-capable Naval vessels would be needed away from the CSG in this scenario to provide additional layers of protection against BM, CM, and UAS, which land-based AMD could not cover.

Problems and Recommendations

Two specific sets of problems or issues will affect U.S. forces once in a protracted conflict with the China: pre-conflict and in-conflict. Pre-conflict problems, if left, will manifest as significant problems in war if they are not solved before conflict arises and will become a gaping seam in the ability of the U.S. to project power against China. The in-conflict problems are those that will materialize based on the usage of AMD assets and will likely not become transparent until after the war has entered a protracted state. Some of the issues will fall into both categories, potentially for the same or different reasons, but the recommendations for solving them will likely differ.

Pre-Conflict

Problem – Timeline and Magazine Depth of China (PLARF)

China's BM, CM, and Hypersonic inventory: The PLARF inventory of ballistic Missiles (BM), Cruise Missiles, and Hypersonic missiles is extensive and continues to grow yearly. Recent studies have shown that the PLARF has an inventory of more than 1,500 BMs and CMs.[28] The majority of these missiles are likely shorter range. However, they still provide an effective Anti-Access/Area Denial (A2AD) capability if the PLA has a lodgment and is conducting a blockade of Taiwan. With Short Range and Medium Range Ballistic Missiles (SRBM/MRBM), China could have effective A2AD well into the South China Sea and past Taiwan, as shown in the map next page.

With the Chinese growing arsenal of SRBM and MRBM, the U.S. must look at this pre-conflict problem in various ways.[29] First, the impetus in the Defense industrial base that currently exists for 155mm shells needs to cross over to Patriot, THAAD, SM-2, SM-3, and SM-6 missiles.[30] The U.S. worldwide inventory for BMD interceptors is at a dangerously low level.[31] Even with an impetus akin to the 155mm, the current U.S. inventory in the Pacific and likely worldwide will be depleted before the protracted conflict begins.

Second, the building and storage of BMD missiles in the Pacific with an ally similar to what is happening in NATO with a joint U.S.–German venture needs to start.[32] Enabling allies and partners to build critical components and missiles would show others the U.S. commitment to the threat of China.[33] Japan is licensed to build Patriot missiles and recently worked on an arrangement to export finished missiles instead of just the components.[34] Based on this arrangement and current defense treaties and partnerships, the U.S. should also look to Japan and its defense industrial base to build other interceptors, most notably SM-2, SM-3, and SM-6s.

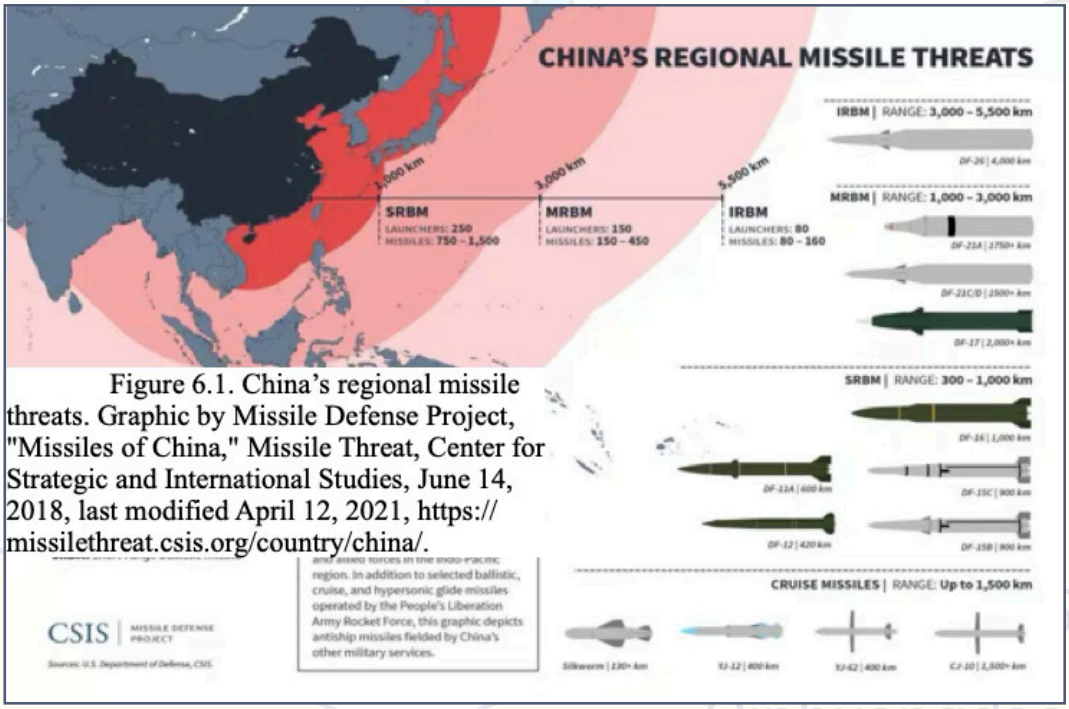

Figure 6.1. China's regional missile threats. Graphic by Missile Defense Project, "Missiles of China," Missile Threat, Center for Strategic and International Studies, June 14, 2018, last modified April 12, 2021, https://missilethreat.csis.org/country/china/.

Recommendation - Timeline and Magazine Depth

Third, coupled with the previous need to have an ally or allies build interceptors, we need magazines to store interceptors. Currently, there is not enough magazine space in the region to store all the necessary missiles to combat the PLARF inventory, even if all required interceptors were allocated to the theater. To fix this issue, USARPAC should do two things. First, include interceptors on Army Prepositioned Stock – Afloat. Doing so would create an inventory that could be moved to where the need is as tensions rise or once in conflict. The risk in this option is the damage sea, air, and water could cause and the need for inspectors. Second, the U.S. must collaborate with our allies and partners to build a new approach.[35] One part of this new approach should be the storage of BMD interceptors throughout the region, even in countries with little to no U.S. BMD. This serves the purpose of building up allies and partners that may not want forward stationing of BMD forces but want to assist. Additionally, by placing interceptors in new magazines throughout the region, it practices dispersion and passive air defense.[36] Australia, with the Marine Rotational Force – Darwin and its location outside most of China's BM inventory, should be one of the first allies approached for a new storage location for interceptors.[37] Additional areas for interceptor magazines should be prioritized based on similarity of capability.

Fourth, tactics regarding how many BMD missiles are shot at a threat need to change. Standard tactics, given the limited threat faced over the last 20 years, are for Patriot, THAAD, and Aegis operators to fire a Salvo of two interceptors at any incoming threat to their defense design.[38] With China's deep and growing arsenal, the missile defense community should relook tactics to conserve interceptors and protect critical assets. Air defense doctrine highlights four straightforward ways to potentially combat ballistic missiles: Shoot-new target-shoot, shoot-look-shoot, salvo, or ripple method, depending on the threat and type of defensive platform.[39] The salvo method, multiple interceptors to destroy or defeat incoming threats, has worked well based on the limited number of attacks in the Middle East over the last 20 years. U.S. and allies with BMD capability need to change this tactic immediately to prepare our forces in pre-conflict for the overwhelming mass the PLARF has with respect to BM, CM, UAS, and other air threats. The limited AMD assets and ammunition demand the need to conserve munitions early. Furthermore, the recent sharing of munitions from Japan to the U.S. to backfill Ukrainian Patriot missile shortages should be formalized with all Patriot and THAAD partners globally.[40]

Lastly, using new and emerging technologies must be a priority for all services. New Pacific Fleet - Naval Surface Warfare Commander, VADM Brendan McLane, recently stated, "We will be the first navy to put lasers aboard all its ships."[41] All AMD forces throughout the region should adopt the mindset of what technology can do to aid in survivability. With direct energy and lasers becoming a capability fielding in the future, the U.S. should look to other capabilities to provide a layered network of short-range to upper-tier assets. Some of the short-range and CM assets include the investment in the Reconfigurable Integrated Weapons Platform (RiWP), flak-producing missiles, EM flak, and previously used low-tech/lower-cost options.[42] The Multi-Domain Task

Force (MDTF) or Short Range Air Defense (SHORAD) units could use these emerging technologies to provide air defense in certain phases of the fight and then reconfigured to provide indirect fires or anti-armor in other phases. Flak, EM flak, or low tech/lower cost option offers additional layers of protection and defensive fires capability while potentially destroying/defeating a swarm of UAS or a covey of CM with far fewer interceptors.

Problem – More AMD/BMD needed and organizational structure for USARPAC/USINDOPACOM subordinate commands convoluted

Coupled with the abovementioned problem is a more dire problem: there are not enough air defense formations. The proverbial peanut butter that is army air and missile defense is spread incredibly thin. As shown above, the deployment to CENTCOM over the past two decades has created a crisis within the CONUS-based air defense Patriot formations. The gutting of SHORAD as the "bill payer" for other types of formations was, in retrospect, short-sided and completely COIN-focused.[43] The U.S. must acknowledge the need for more AMD/BMD formations to compete and protect formations in conflict with China. There are gaps within the AMD coverage; even if all U.S. and allies' AMD units are in place and operational, Chinese forces could operate with impunity.[44]

Recommendation – More AMD/BMD needed and organizational structure for USARPAC/USINDOPACOM subordinate commands convoluted

Accounting for the need to be at zero/near zero growth for the Army USARPAC should look at two potential solutions to this problem. First, within USARPAC, there are redundant or near-redundant capabilities within commands and headquarters. 94th AAMDC, 5th BCD, Theater Fires Command, and the two Multi-Domain Task Forces all overlap in some way, shape, or form. Looking at the missions for each organization, one can see the duplicity in some of the roles.

The AAMDC's role is to lead and integrate all regional Army air defense assets with joint and multi-national partners and allies.[45] In completing this mission, the AAMDC works with and for the Joint Forces Air Component Command (Air Force).[46] The BCD's role is to coordinate between the Commander of Army Forces and the Joint Forces Air Component Commander to synchronize maneuvers, fires, and interdiction in the Army Forces' Area of Operation.[47] The Theater Fires Command is an older construct reinvigorated recently to control fires at a very long range.[48] The MDTFs are also a new construct, and each is different. Within the Pacific, there are two MDTFs. The 1st and 3rd MDTFs "conduct a persistent competition to help set conditions in the Theater of Operations for the rapid transition to conflict…attack across all domains to prevent enemy freedom of action."[49]

There are redundant mission sets just within these four formations. The force structure for each of these organizations, which are predominantly headquarters, adds up to more than 2100 Soldiers. This is not nearly enough to get the force structure needed. However, each headquarters' role should be examined to streamline capability and capacity when looking for ways to optimize the command structure.

The additional force structure to complement the needs of the Air Defense branch is roughly 6,000 personnel if a conflict with a peer adversary arises.[50] If a third of the ~2,100 billets mentioned above were considered redundant, the result would be less than 12% of the needed gains. To be prepared for the threat China poses and remain conscious of a zero-growth would require a radical change in force structure across the Army.

The use of less than two BCTs (4000-4700 per BCT) force structure to create 6000 new ADA Soldiers.[51] The Army currently has 32 BCTs in the Active Army and 27 in the Army National Guard.[52] This could create ~50-55 new batteries (100 personnel per battery) with associated HQs needed. The time it takes to create an Infantry BCT is far less than it is to create any ADA formation.[53] The loss of two BCTs from the Active Army or USARNG is not a palatable solution and, based on feasibility, is likely a non-starter.

The other way to get to this option is to make the necessary cuts across the force structure of different units in the Army. For example, if the Army were to make the required changes across each BCT in the Army to reach the 6000 personnel needed for Air Defense billets, it would require the reduction of ~4.25 – 5% of each BCT's combat power. An IBCT has approximately 4,400 Soldiers, with three Infantry Battalions making up most of the combat power.[54] Taking 4.25-5% of that combat power would result in less than 200 personnel per BCT. With the recent changes and cuts to the Army Force Structure 2025-2029, further reductions to the BCTs are likely also non-feasible. If all Army units and headquarters were considered, the percentage would further drop as the 6,000 personnel needed is just 1.3% of the total Active Duty end strength in the 2024 NDAA.[55]

The point is that aside from limited SHORAD and GMD capability in the USARNG, there is no Patriot or THAAD capability in the ARNG, and there are another 27 BCTs in the ARNG.[56] The time it takes to activate a USARNG BCT or to constitute a new BCT if the need arises is far less than the time it takes to constitute, train, and equip a new Air Defense formation. This would need to be a phased approach as the 6000 personnel forming new ADA units would require additional interceptors as they would all be focused on upper-tier BMD. Furthermore, the majority of the ARSTRUC additions for Air Defense are MSHORAD and Indirect Fire Protection Capability and C-UAS units. Not the Patriot and THAAD capabilities that will be needed to face the vast BM and CM inventory from the PLARF.

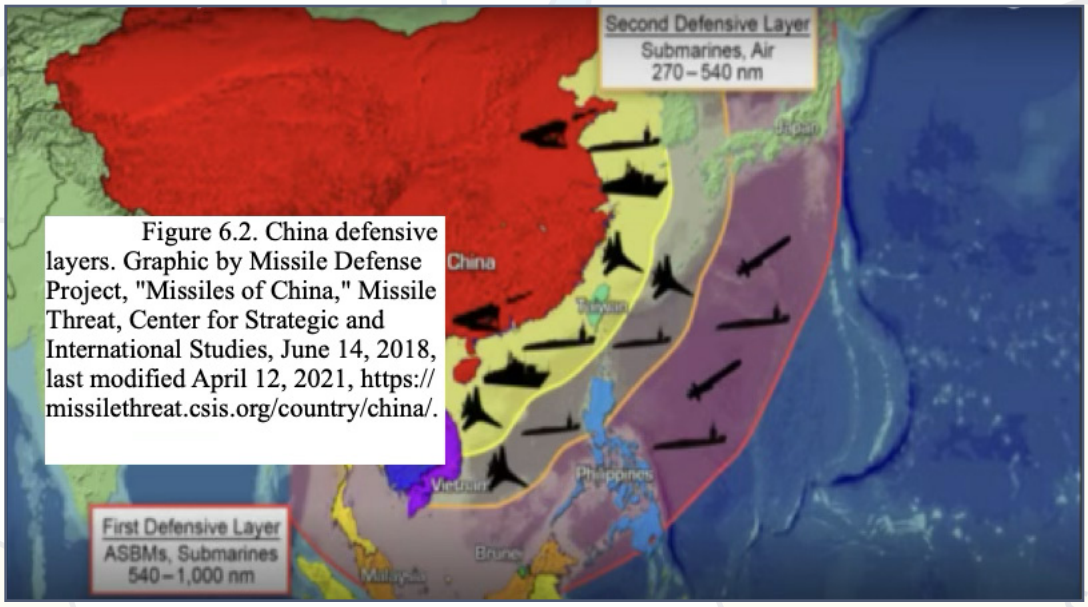

Figure 6.2. China defensive layers. Graphic by Missile Defense Project, "Missiles of China," Missile Threat, Center for Strategic and International Studies, June 14, 2018, last modified April 12, 2021, https://missilethreat.csis.org/country/china/.

Recommendation – Joint/Combined Air Defense Increase in Capacity and Interoperability

If we genuinely want to garrison other locations throughout the Pacific to create the type of wicked problem for China and protect our forces, then we must be willing to make extreme changes to our force structure.[57] China is focused on creating technological problems in the advent of conflict.[58] We must not only match the problems the PLA presents but also create challenges of our own for not only the PLA but the CCP leadership to face. By creating more defensive fires/protection formations and capability, the U.S. is signaling to China and our allies and partners in the region that we are trying to contain the threat China poses to the international order and protect our homeland.

Three countries in the Indo-Pacific region have Patriot: Japan, South Korea, and Taiwan.[59] No other country has THAAD, and it is only stationed in Korea. The U.S. is woefully short in combined air defense assets, and the lack of resources is only part of the problem. Without capabilities, the capacity for combined interoperability training is nearly non-existent. The U.S. will operate in a Joint and Combined environment where recent results in CENTCOM have shown excellent results against BM and UAS.[60] The A2AD environment that the Chinese forces present (see below) shows the wicked problem the U.S. will face in protracted conflict. The combined environment will be bi-lateral and potentially tri-lateral relationships with limited partners, presenting integrated air and missile defense issues.

Providing sustained interoperable joint and combined air and missile defense against the PLARF requires work to build a shared common operating picture for air defense. The other challenge is sustaining our air and missile defense forces in a protracted fight. This problem will be made even more challenging without additional capacity throughout the region. The limitation of partners with similar systems means a smaller and less dispersed air defense network.

The interoperability issue outside of Japan and Korea will not be solved without additional partners in the Pacific having the capability to integrate. This increased capacity with additional partners with advanced AMD capability should spur allies and partners to work towards interoperability and data sharing. The crux of this argument is that defensive weapons capability, like AMD/BMD, can provide a deterrence effect and will aid in building the allies and partners in the Pacific and the collective ability to wage war when needed.[61]

FMS sales to Taiwan and other nations should be focused on defensive weapons like Patriot to provide an A2AD problem for China in the event of a conflict. The U.S. must stop letting all countries choose from the whole menu of defense weapons systems (Tanks, F35, etc.) and provide a limited option for each country to choose from that suits them and the U.S. and regional allies and partners. Building capacity and capability that provides the framework for deterrence now and the ability to succeed in a protracted conflict.

If more partners have the same AMD/BMD capability, it will likely result in further capacity in multiple areas. First, the bilateral relationships with sharing AMD tracks between the U.S. and Korea and the U.S. and Japan are coming closer to tri-lateral relationships.[62] If more allies and partners in the Pacific were pushing in the same direction with some AMD capability, then a shared network would likely be the result. Secondly, for those that did share the same capability, like Patriot, it would allow for an easier time sharing munitions and parts across the theater. Furthermore, in the event of protracted war, the more partners with the same or similar capability, the higher the likelihood of storing munitions and spare parts dispersed across the theater.

Concerning interoperability, USARPAC should work to cooperate fully and share data with all AOR's allies and partners. This should be done similarly to the Artillery Support Cooperation Agreement (ASCA) within NATO and will increase survivability and partnership.[63] ASCA dramatically decreases the time on target for a call-for-fire mission with multiple national assets being used. Each sub-region's independent yet interdependent nature will result in AMD tracks needing to be shared from one sub-region to another. The sharing of tracks and information needs to be done simultaneously across the theater for the survivability of AMD forces and the assets and forces they protect.

Coupled with expanding the capacity across combined AMD, it is necessary to link exercises across domains to achieve the desired effect when conflict occurs. The growth across domains is happening as Exercise Pacific Pathways becomes Operation Pathways. Still, until this is done at scale across USINDOPACOM, it will not provide the interoperability needed in a protracted conflict.[64] Leaders across the joint force are talking about linking exercises to increase interoperability and, thus, lethality across domains.[65]

From Pre-Conflict to In-Conflict

China is demonstrating with the mock-up of a Ford-class Aircraft Carrier that they view the U.S. power projection as a vital threat to their aims.[66] If the U.S. and our allies are to provide continued support to Taiwan in a protracted war, the U.S. and our allies must protect the capital ships in our fleet that enable the power projection. Otherwise, providing logistical support from over-the-horizon (OTH) will be further complicated because we will be forced to provide force projection with the logistical support from OTH due to our inability to protect critical infrastructure and capital resources in and around the area of operations.[67]

Overall, recommendations will be presented for each problem. Some recommendations will bleed over into other problems, which will be highlighted to show compounding effects.

1. **Joint/Combined Interoperability lacking**
2. **Lack of GFM and/or named Operation in the Pacific limits deployable air defense resources from CONUS**
3. **Organizational structure for USARPAC/USINDOPACOM subordinate commands convoluted**

All the problems and recommendations above require time and resources to prepare USARPAC, USINDOPACOM, and a whole government approach for the U.S. to prepare for the potentiality of protracted conflict with China. Some additional things can be done today to influence the U.S. position now and into the future. First, influence operations need to be synchronized concerning China and North Korea's shortcomings and failures in ballistic missile testing and launches. The U.S. should use influence operations to aid in the downstream impact of failed ballistic missile launches of China or North Korea or to show the corruption of PLA leaders who drain the fuel from their rockets and refill them with water.[68] This non-kinetic effect through influence operation would help to sow doubt in China and/or North Korea in their leadership.

If the U.S. is going to be prepared for the later stages of protracted conflict in the Pacific with China, then the time is now to do what is necessary. We must ascribe now to former Secretary of Defense James Mattis's mantra that "Anything our enemies dream up, we can counter faster."[69] If USARPAC and the U.S. do not advocate for change, there is a severe risk of being unable to keep pace with China in preparing for conflict in the Pacific. The problems and recommendations may not happen directly in conflict. Still, if we do not prepare and solve these problems before direct action, the U.S., our allies, and our partners will reap the consequences of being ill-prepared and out of time.

In-Conflict

There are four main approaches to conflict, which spread throughout the protracted period of the conflict. The first relies on implementing passive air defense measures now so that our forces are prepared for limited to exhausted U.S., allied, and partner air defense magazines.[70] Secondly, there is reliance on all other nations

with Patriot, THAAD, Aegis, or any compatible ground or sea interceptor. Third, the execution of Combined Arms Air Defense (CAAD).[71] USARPAC and subordinate ground units must practice against UAS targets now to prepare themselves for the likelihood of no air defense coverage and limited magazine depth if there is any coverage. Lastly, the need to energize the defense industrial base of the U.S., allies, and partners will need to happen at an exponential scale.

Passive air defense measures are imperative in any large-scale combat operations (LSCO) as all global actors are learning daily in the Ukraine-Russian Conflict with videos of UAS strikes. Passive air defense measures include detection, warning, camouflage, concealment, deception, dispersion, and sheltering.[72] Within the seven measures of passive air defense, units must begin to work on concealment, deception, and dispersion. The ability to hide in plain sight and survive an attack is inherent in all three of these primary traits. These measures must now be built into exercise constructs for formations across USARPAC and our allies and partners. Physical concealment and the ability to hide from the adversary on the electromagnetic spectrum (EMS) are imperative on the modern battlefield.[73] In the protracted fight with China there will be a vast array of EMS clutter for the PLA to try to sift through and attempt to strike a high payoff target. Units across our joint and combined forces are working to create measures to shrink the EMS signature of a unit or headquarters.[74,75] Practicing these passive air defense measures now will increase survivability in the early stages of protracted conflict.

The other necessary action early in the protracted stage of conflict is to receive the Patriot, THAAD, SM-2, SM-3, SM-6, and any other interceptor or platform from allies and partners outside of the Pacific region. Germany, Greece, Israel, Kuwait, the Netherlands, Saudi Arabia, Poland, Sweden, Qatar, the United Arab Emirates, Romania, and Spain all have Patriot.[76] The type of Patriot interceptors differs between countries between PAC-2 and PAC-3 missiles, PAC-3, which are the best for Missile Defense.[77] USINDOPACOM and USARPAC need DOD and DOS to forge munition-sharing agreements with the nations above for Patriot interceptors. Doing so pre-conflict will help boost AMD once all U.S. interceptors in the theater have been exhausted and those stationed globally have depleted to the lowest levels allowed to deter other adversaries safely. This would be in the early stages of protracted conflict and potentially provide time and space for enhanced protection against the PLARF, which has expended the majority of its BM inventory. With this increase in protection capability from dramatically limited magazines, superiority could be achieved across several domains to enhance U.S. and allies' positions vis-à-vis China's position in and around Taiwan. While this increase in inventory will likely only be minimal and short-lived, synchronized coordination of the arrival of interceptors with other joint operations could provide the U.S. and its allies a better position to combat China deeper into protracted conflict.

With the rapid depletion of interceptors and while awaiting the arrival of those from allies and partners outside of the Indo-Pacific region or from the defense industrial base, or for those outside of AMD coverage, there will be the need to use CAAD. This was part of doctrine during the Cold War, primarily focused on the Soviet Union rotary winged and some fixed winged threats.[78] Incorporating CAAD into exercise and training plans, primarily for ground units now, may help provide limited protection, especially against UAS. In conjunction, the Civilian Off The Shelf (COTS) solutions for UAS denial and defeat are growing nearly as rapidly as new UAS.[79] During training, allow commanders at echelon to create Restricted Operating Zones (ROZs) and Free Fire Zones (FFZ) to practice engaging UAS with non-air defense weapon systems. Combining these ROZ/FFZ with UAS denial capability will be necessary in protracted conflict both when interceptors have run out and also by units that are outside of the AMD coverage.

If the U.S., allies, and partners do not energize the defense industrial bases (DIB) of their respective nations now, as discussed in the chapter focused on the DIB, then the in-conflict problems will metastasize into more significant setbacks. These setbacks may provide too much time for the U.S., allies, and partners to respond to a Chinese invasion of Taiwan. If implemented, the recommendations to the air defense problems discussed in the pre-conflict section will help provide decision space for leaders from the tactical to strategic level. Once in conflict, U.S. leaders in the Pacific and at home need to hope China uses what this author considers the Most Dangerous Course of Action (MDCOA), at least concerning their BM, CM, and Hypersonics. The MDCOA would likely be the depletion of the majority of PLARF inventory of BM, CM, and Hypersonics. If this is the path chosen in the event of Protracted conflict with China, then the shortage of AMD interceptors is likely mitigated due to the lack of PLARF threats. This gives the defense industrial bases of the U.S., allies, and partners time to replenish inventory. In conjunction with this, prudent action to plan for the air and maritime components to conduct targeted strikes to limit the PLARF's ability to reload their BM, CM, and Hypersonics stockpiles.

USINDOPACOM and USARPAC can outline the requirements needed to fight and win a protracted conflict with China for our strategic leaders, following the guidance of our national security documents. The prevailing thought must be that it will not be easy and will take a concerted effort over time. It will require both pre-

conflict and in-conflict solutions. The pre-conflict solutions show the need to increase our amazingly small magazine of AMD interceptors. Additionally, there is a need to improve interoperability in the joint and combined environments, focusing on the coalition of allies and partners. Furthermore, we must take a holistic look at our organizations' staffing and command structures. Finally, there is a need to highlight the lack of protection forces ready and stationed in the Indo-Pacific compared to other locations globally.

In conflict, USARPAC and formations at the echelon must focus on passive air defense measures that will provide some protection against air threats and some enhanced survivability. Ground formations especially need to practice and expect to perform CAAD primarily against UAS threats in conflict. Additionally, there is a need for a whole government approach, principally with the DOD and DOS working on munitions-sharing agreements with nations outside of the region. Finally, modernizing the force and energizing the necessary elements of the U.S. and allied defense industrial bases will be essential to fight and win in a protracted conflict with China.

Final Thoughts

Global Force Management will always be a problem for Air Defense, as every Combatant Command routinely asks for more AMD.[80] This is not a problem that USARPAC or USINDOPACOM can solve alone; the Joint Staff must recognize the incongruencies in the alignment of forces to interests.

The 2021 drawdown of U.S. air defense forces in CENTCOM was supposed to improve the health of the force and reduce the strain caused by continual deployments to the CENTCOM AOR over the last two decades.[81] This worked briefly, but the changing security environment necessitated the rapid deployment of more BMD forces to CENTCOM.[82] The Joint Staff must force the Combatant Commands to adhere to the strategic documents that place China as the pacing threat.[83] If the U.S. is to continue deploying air defense forces U.S. forces in the Middle East, they should be assigned as they are in the USINDOPACOM theater in Korea or Japan.[84,85] This would alleviate deployment dwell issues that continue to reduce unit readiness across air defense formations. All Combatant Commands should follow the same rules regardless of past precedence. Assigning forces to CENTCOM vice deploying would allow USINDOPACOM and others to work with BMD forces for rotational training opportunities that are currently neglected due to a shortage of available units.

Conclusion

As the famous saying goes, "Those who cannot remember the past are condemned to repeat it."[86] The U.S. military has seen this problem before in the lead-up to and aftermath of the attack on Pearl Harbor.[87] The coastal artillery units and the commands were woefully underprepared, and the price was paid in blood as the modernization occurred in combat. Many issues must be addressed for AMD to protect joint formations as we face the looming threat of protracted conflict in the Pacific versus our pacing threat. Most of these issues must be solved pre-conflict if there is any chance of providing AMD protection past a short and sharp conflict.

If the U.S. is going to be prepared for the later stages of protracted conflict in the Pacific with China, then the time is now to do what is necessary. We must ascribe now to former Secretary of Defense James Mattis's mantra that "Anything our enemies dream up, we can counter faster."[88] If USINDOPACOM and USARPAC do not advocate for change, there is a severe risk of being unable to keep pace with China in preparing for conflict in the Pacific. The problems and recommendations may not happen directly in conflict. Still, if we do not prepare and solve these problems in the competition and deterrence phase we are in, before direct action, the U.S. and our allies and partners will reap the consequences of being ill-prepared and out of time.

China has an extensive and growing inventory of ballistic missiles (BMs), cruise missiles (CMs), and hypersonic missiles.[89] With a formidable Anti-Access/Area Denial (A2/AD) capability, especially in the South China Sea and around Taiwan.[90] To address this growing threat, an increase in production and stockpiling of key missile defense interceptors like Patriot, THAAD, SM-2, SM-3, and SM-6 is needed now. The current U.S. worldwide inventory of these systems is dangerously low, and there is a risk of it being depleted before we reach protracted conflict.[91]

The U.S. should collaborate with allies like Japan to enable them to build and store missile defense interceptors in the region. This shows U.S. commitment and builds regional capacity. Furthermore, the establishment of additional missile defense magazine storage throughout the theater, including on prepositioned ships and with allies. This improves dispersion and passive defense. An adjustment to missile defense tactics, from firing a salvo of interceptors to more conservation shoot-look-shoot or shoot-new target-shoot to limit interceptor

usage early on and save inventory against the PLARF's robust missile arsenal. Finally, to solve the current shortfall of AMD, the U.S. needs to prioritize developing and fielding new technologies like directed energy weapons, electronic warfare, and low-cost/low-tech options to provide additional defensive layers and conserve expensive interceptors. Most of these will not be short-term solutions and will likely take at least a decade before they are available at the scale needed for protracted conflict against a peer threat.[92]

The U.S. Army's current air defense and missile defense capabilities within USARPAC and USINDOPACOM are insufficient, but the capacity and number of air defense units are even further deficient. Estimates suggest an additional 6,000 personnel are needed to field the necessary AMD/BMD forces globally, with a large percentage of these forces allocated to the Indo-Pacific theater.[93]

Addressing China's missile threat will require further significant changes to U.S. Army force structure and organization in the Indo-Pacific. Streamlining headquarters, shifting personnel, and leveraging the National Guard can help generate the needed AMD/BMD capabilities. However, this will be challenging and require difficult tradeoffs, underscoring the urgency of this problem. This multifaceted approach to force structure will not be solved quickly, and that is why we must work to solve this problem pre-conflict.

Another issue USINDOPACOM and USARPAC must work to solve pre-conflict to effectively counter China's growing ballistic missile and cruise missile threat is to significantly increase their joint and combined air defense capabilities and interoperability. A critical vulnerability is the lack of combined air defense integration on joint or combined exercises outside of the U.S.-Japan and U.S.-South Korea relationships. Joint and combined exercises must be linked across domains to achieve the desired effect when conflict occurs.

Expanding the number of regional partners with compatible air defense systems, like Patriot, is essential to creating a more robust, integrated air defense network. Foreign military sales of defensive systems like Patriot to Taiwan and other nations should be prioritized to enhance their air defense capabilities and contribute to an overall regional A2/AD (Anti-Access/Area Denial) posture against China. Increased interoperability through data-sharing agreements, like NATO's ASCA, would dramatically improve the speed and effectiveness of cross-border air defense coordination and response.[94] Having more allies and partners with compatible air defense systems would also facilitate the sharing of munitions, spare parts, and other logistics, enhancing the sustainability of the joint force in a protracted conflict. Ultimately, building a more integrated, interoperable, and resilient joint and combined air defense architecture in the Indo-Pacific is critical to deterring China's aggression and being prepared pre-conflict to prevail, if necessary, in a protracted conflict.

If we do not focus on the pre-conflict changes that need to be made, the in-conflict problems will inevitably be more challenging and complex to overcome. In a protracted conflict with China, four main approaches were discussed. First, passive air defense measures should be implemented, explicitly focusing on concealment, deception, and dispersion to hide in plain sight and survive attacks, including those in the electromagnetic spectrum.[95] Practicing these passive measures now during exercises will increase survivability throughout the early stages of conflict through protracted conflict with a learning enemy. Second, leverage interceptors from allies and partners.[96] The U.S. must forge pre-conflict munitions-sharing agreements to enable the rapid flow of these interceptors to the Indo-Pacific theater. Third, incorporating CAAD into training and exercises will prepare tactical ground units to provide limited protection when interceptor magazines are depleted.[97] Along with CAAD, establishing restricted operating zones and free-fire zones against UAS will be essential. Fourth, the air defense challenges will only worsen if the U.S., its allies, and partners do not rapidly expand the production of interceptors and other critical components needed through various DIBs.[98] This industrial mobilization must happen now, in the pre-conflict phase, to ensure adequate stocks are available when needed.

Ultimately, USARPAC and USINDOPACOM must outline the requirements to fight and win a protracted conflict with China, addressing pre-conflict and in-conflict solutions. This includes increasing interoperability, optimizing staffing and command structures, and highlighting insufficient air defense forces postured in the Indo-Pacific. It is necessary to condition the minds of the strategic planners down to the tactical operators we need to change. What are we doing to prepare for future conflict? What is constant? What changes? As the old axiom states, how it goes is how it starts. We must start now to set the stage to prevail in the future.

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