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The Bear's Den: Russian Anti-Access/Area-Denial in the Maritime Domain

by

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Abstract

The United States (US) military's ability to operate with relative impunity has started to change. Adversaries took note of the US's success in Operation Desert Storm, and developed techniques to prevent or disrupt US access to operating domains. While China's Anti-Access/Area Denial (A2/AD) buildup has drawn much of the country's attention, another state, Russia, is more quietly developing its capabilities. Russia's territorial seizures and money from natural resources have helped the Russian military develop formidable capabilities. Anti-access is nothing new to Russia, however. Through an exploration of the requirements of A2/AD strategy and a look at the history of the Soviet Union's military strategy, similarities to modern Russian plans, especially in the maritime domain, are evident.

The Joint Operational Access Concept defines anti-access as "those actions and capabilities, usually long-range, designed to prevent an opposing force from entering an operational area," and defines area-denial as "those actions and capabilities, usually of shorter range, designed not to keep an opposing force out, but to limit its freedom of action within the operational area." Sam Tangredi asserts five fundamental elements common to the construction of A2/AD strategies: the perception of strategic superiority of the attacking force, the primacy of geography as the element that most influences time and facilitates attrition of the enemy, the primacy of the maritime domain, the criticality of information and intelligence, and the deterministic impact of external events. All are evident in the strategy of the former Soviet Union and modern Russia.

The former Soviet Union operated with a doctrine aimed to deny access to their waters to US forces, and contest operations should US forces enter their territory. Modern Russia is developing A2/AD "bubbles" in four areas: the Baltic, the Black Sea, Syria, and the Arctic.

Long-range missile systems threaten both ships and aircraft. The buildup of bases and weapons in the Arctic is allowing Russia to secure large pieces of the Arctic while the West can only watch. Russia is asserting itself over its former sphere of influence, while Russian ships, aircraft, and submarines practice the same missions they trained for under the Soviet Union—the destruction of US forces at sea and the denial of regional basing.

INTRODUCTION

According to the 2014 Quadrennial Defense Review, "Future conflicts could range from hybrid contingencies against proxy groups using asymmetric approaches, to a high-end conflict against a state power armed with WMD [Weapons of Mass Destruction] or technologically advanced anti-access and area-denial (A2/AD) capabilities."[1] The United States (US) has recognized the increasing sophistication of its potential near-peer adversaries. Those adversaries observed the US from the Gulf War through the Global War on Terror, taking notes on its capabilities and limitations. Until recently, the US has been able operate relatively unopposed. This status has started to change. With the desire to avoid force-on-force conflict they cannot win, the proliferation of advanced weapons and technologies, and a changing US overseas defense posture, adversaries have developed techniques to prevent or disrupt US access to operating domains.[2] US leadership has recognized the challenge presented by these adversaries, and has started to develop strategies and shape forces to combat this challenge.

Much publicity has been on the actions of China in the South China Sea and Straight of Taiwan. China has constructed an anti-access navy, capable of posing a serious challenge to US involvement in the region. The US Air Force and US Navy developed a joint doctrine in 2010, Air-Sea Battle, based upon inter-service integration of operations to counter Chinese anti-access measures in the Pacific.[3] Development of this doctrine led to the establishment of an Air-Sea Battle office in the Pentagon. It was not until 2013, however, that the office started looking at applying its doctrine to actors outside of China. Very quietly, Russia has developed an anti-access capability of its own. With their territorial seizures and an influx of money from natural resources, the Russian military has constructed formidable capabilities. Though the world's attention has just started to turn to Russia's strategy, anti-access is nothing new to the state.

Through an exploration of the requirements of A2/AD strategy and a look at the history of the Soviet Union's military strategy, similarities to modern Russian plans are evident.

A2/AD DEFINED

The Joint Operational Access Concept (JOAC) defines anti-access as "those actions and capabilities, usually long-range, designed to prevent an opposing force from entering an operational area," and defines area-denial as "those actions and capabilities, usually of shorter range, designed not to keep an opposing force out, but to limit its freedom of action within the operational area."[4] A state can use these concepts together to hinder its adversaries' actions in a particular geographic area, and prevent the adversary from striking a center of gravity. In his book, *Anti-Access Warfare*, Sam Tangredi describes A2/AD as the strategy of choice for authoritarian states. He asserts five fundamental elements common to the construction of A2/AD strategies.[5] The first element, the perception of the strategic superiority of the attacking force, drives a defender to focus on the denial of access as a primary objective.[6] The defending force must acknowledge the fact the attacking force is strategically and technologically greater in its ability to project power. Recognizing this weakness, they seek to deter the attacker, allowing the weaker state to achieve its goals without conflict.[7] Diplomatic actions preventing access to regional bases are part of this recognition. The second element, the primacy of geography as the element that most influences time and facilitates attrition of the enemy, is a true benefit.[8] Chokepoints, whether in water or on land, were historically used in defensive strategies against superior forces. While an aircraft or a satellite can overfly a geographic feature, a ship cannot sail over a piece of land.

Tangredi's third fundamental element of A2/AD strategies reinforced his view that A2/AD is fundamentally a function of water. To build an effective A2/AD strategy a defender

must recognize the primacy of the maritime domain.[9] This maritime domain includes not only

the water but the air and space above it. For an attacker to transition from one region to another,

it must utilize the world's oceans. The ability to maneuver from region to region over water is

thought by Tangredi as the most significant advantage an attacker could have. Even with the

maximum use of US military transport aircraft and the Civil Reserve Air Fleet, a full 90% of the

equipment for Operation Desert Storm was moved by ship.[10] Pre-positioned ships from Diego

Garcia provided the equipment for the 7th Marine Expeditionary Brigade. The ability to place a

US Amphibious Ready Group (ARG) off the coast of Kuwait also served as a deception tool,

forcing the Iraqis to dedicate troops to defend against a possible amphibious assault. [11] The

denial of the ability to utilize the maritime domain would be a useful factor in an A2/AD

strategy.

With his assertion that the air and space above the water was also part of the maritime

domain, Tangredi listed the fourth element of an A2/AD strategy as the criticality of information

and intelligence.[12] An A2/AD strategy should seek to deny information to the enemy and

deceive that same enemy. Indeed, the JOAC recognizes "the emergence of space and cyberspace

as increasingly important and contested domains."[13] Not many days go by when there is not

mention of some kind of database hack or computer virus in the news. In an age when the US

military has dramatically increased its reliance on computers and information systems, the

disruption of those systems brings hardship. The modern military relies on its Intelligence,

Surveillance, and Reconnaissance (ISR) capabilities to plan operations and target the enemy. A

denial or disruption of those capabilities would complicate operations immensely.

Tangredi's final element of an A2/AD strategy was the determinative impact of extrinsic

events. The objective of an A2/AD strategy is the neutralization of the superior force until time,

attrition, and extrinsic events shake the attacker's determination.[14] In acknowledging the

strategic superiority of the attacker, the defender has bought into a strategy that seeks to wear the

attacker down until it can no longer achieve its objective. The US, a global power, has interests

all over the world. If a defender can stretch the amount of time it takes for the attacker to

achieve its goals, chances are likely that an event in another part of the world will occur that

would damage the attacker's ability to attain its aims. In the case of China, until the announced

US pivot to the Pacific, extrinsic events in Central Asia had US naval forces committed. China

used that time to develop impressive A2/AD capabilities in the Pacific Region.[15]

The Joint Operational Access Concept (JOAC) lists several key A2/AD capabilities. All

of these capabilities play into Tangredi's anti-access elements, especially the primacy of the

maritime domain and its associated air and space. Important A2 capabilities include surface-,

air, and submarine-launched missiles that can target US bases and ships at long range, long-range

ISR systems, anti-satellite weapons, submarine forces able to interdict US lines of

communication, cyber-attack capabilities, terrorist willing to attack US bases and forces

(extrinsic circumstances), and special operations forces capable of action in approaches to the

region.[16] Important AD capabilities include air forces and ground- and ship-based air defense

systems designed to deny air superiority, short-range anti-ship missiles and submarines with

advanced torpedoes, precision-guided weapons, chemical and biological weapons, cyber-attack

capabilities, naval mines capable of closing off straits, armed small boats, special operations

forces, and unmanned air and water vehicles.[17] While all of these capabilities were previously

only available to global powers, many weaker states have obtained elements. All of the

capabilities listed are areas in which China has become proficient. These proficiencies have

been well-publicized and discussed in military and media circles. What has not been as well

publicized, however, are the developing A2/AD capabilities of Russia. Russia has recognized the changing defense posture of the US in its drawdown in Europe, and has started to take advantage of the situation. It has put massive A2/AD elements into place. While not termed A2/AD in the past, the concept is not a new one to Russia. For many years the Soviet Union operated on a strategy of denying US forces access to the European theater.

SOVIET A2/AD STRATEGY

While the term A2/AD is fairly recent, the Soviet Union never the less operated an A2/AD strategy for many years. The Soviet Union was unable to compete against Western powers for sea control. It recognized the strategic superiority of the US and its allies. This drove the authoritarian power to develop the Soviet Navy as a sea-denial force, with an ability to destroy enemy ships and aircraft, but not control distant regions.[18] The Soviet Navy developed many of the tools discussed in the previous section, including diesel and nuclear submarines, long-range bombers, air-, ship-, and submarine-launched cruise missiles, naval mines, and nuclear ballistic missiles targeted at ships.[19] The Soviet Navy was framed around destroying US aircraft carrier battlegroups and the destruction of transatlantic lines of communication with a goal of denying US forces access to European battlefields. The Soviets recognized the primacy of the maritime domain, and sought to use geography to buy time for their forces in Europe. It looked to asymmetrically fight US power-projection capabilities through its large submarine and long-range attack aircraft fleet.[20] The Soviets would keep US ships from their waters while challenging US use of the open ocean.

One of the major thinkers for the Soviet Navy was long-time Commander-in-Chief of the Soviet Navy Admiral of the Fleet of the Soviet Union Sergei Gorshkov. Gorshkov recognized the strength of the Soviet Union's Navy for home defense, but sought a blue-water role. He

researched naval history extensively, coming to the conclusion that all great modern powers were maritime powers.[21] In his analysis of naval history, he concluded that the power of the Soviet Union rose and fell with the strength of its navy. In analyzing German strategy in World War I and World War II, he concluded that a strong navy must be balanced both above and below the surface.[22] Gorshkov saw three challenges to the Soviet Navy: ice, chokepoints, and distance.[23] Soviet bases at Northern latitudes were consistently covered by ice, necessitating the development of a large icebreaker fleet. The Soviet fleet was also hemmed in by the same chokepoints that could enable A2/AD strategy. Gorshkov also recognized the inability of the Soviet Navy to replenish beyond territorial waters due to a lack of supply vessels and re-supply capability.

With the inability of the Soviet Navy to counter the US Navy during the Cuban Missile Crisis a possible influence, Gorshkov led the Soviet Navy in a major building and modernization program. New surface vessels and technology were developed, and the Soviet Navy began expanding into the Mediterranean, the Atlantic, and even Cuba.[24] The Soviets even began an aircraft carrier construction program with a goal of eventually matching the US Navy.[25] The pure sea-denial strategy bent to allow for a modicum of power-projection capability. While work on their navy was impressive, the construct of the Soviet fleet and its doctrine remained mainly A2/AD. Strategic Defense was a major mission of the Soviet Navy, encompassing the sea denial mission of keeping US carriers and submarines from territorial waters.[26] Gorshkov also incorporated sea control as a mission, with the goal of gaining command of large areas of the ocean to deny the US the ability to use it to launch attacks.[27] In keeping with the true goal of an A2/AD strategy, though, Gorshkov saw deterrence as the most important mission of the

Navy.[28] Gorshkov saw the sea-launched nuclear ballistic missile capabilities of Soviet

submarines as a key motivator in deterring attack by the US.

By the 1970s protection of ballistic missile submarines and defense of the Soviet Union

against sea assault by the US and North Atlantic Treaty Organization (NATO) forces were the

priority missions for the authoritarian state's military.[29] The Soviet Navy was primarily a coastal

defensive force lacking major surface combatants.[30] Soviet ballistic missile submarines were

technologically able to launch their missiles from home waters, so were kept within the protected

range of Soviet defenses. The Soviets saw US aircraft carrier and cruise missile attacks as

primary threats, thus forming strategy to destroy the carriers in open ocean or in enclosed seas.[31]

The Russians formed a "defense-in-depth" strategy consisting of sea denial zones. Defensive

forces close to shore would look to assert sea control, while forces as much as 2,000 kilometers

away would perform a sea denial mission.[32] TU-95 Bear-D long-range reconnaissance aircraft

and shore-based long-range bombers carrying anti-ship cruise missiles would seek out US

aircraft carriers and attack from different directions.[33] Attack submarines armed with anti-ship

missiles would also seek out the battle groups. The SS-N-19 Shipwreck missile could fly at

supersonic speeds for up to 500 kilometers.[34] Surface vessels were also outfitted with

formidable anti-ship weapons. Admiral Stansfield Turner's statement summarizes the Cold War

US Navy leadership's view of the Soviet threat: "By the time the carriers were within 1,600

miles of Soviet air bases, they would be within range of over 90 percent of the USSR's land-

based bombers, yet, the Soviet bases would still be over 1,000 miles beyond the range of carrier

aircraft."[35] The Soviet Union could choose the time and the location of the fight. Even novels in

the 1980s such as Tom Clancy's *Red Storm Rising* focused on this Atlantic Ocean battle and the

impossibility of the situation.

US military planners were cognizant of the fact that an attempt to use naval force on Soviet territory would be a bloody proposition. While Soviet doctrine aimed to deny access to their waters to US forces, if US forces made it into Soviet territory they could expect operations to be extremely contested.[36] This knowledge contributed to the A2/AD mission of deterring the strategically superior state from attacking. Large Soviet ships were built to be expendable, meant mainly to employ anti-ship weapons on US fleets.[37] While the Soviet Navy had developed some power-projection capabilities, planners on both sides knew that any true war would be fought on the Soviet Union's turf. The Soviet Union had to maintain strong A2/AD capabilities, while the US Navy had the unenviable task of finding a way to project power into the Soviet fortress. Fortunately the Cold War US Navy never had to attempt access to a wartime Europe. The Soviet Union fell in the late 1980s, leaving the US for a time as the world's sole, unchallenged superpower.

MODERN RUSSIAN A2/AD

"The Russian navy is not going to stand by and watch us reinforce Europe…For two decades we haven't thought about the fact that we are going to have to fight our way across the Atlantic," said General Philip Breedlove, The Supreme Allied Commander of NATO.[38] This quote is not from the Cold War, but was a response to a resurgent Russia's increasingly aggressive movements over the past few years. Since the collapse of the Soviet Union the US has been able to move through European waterways without restriction. This is changing with the rise of the modern Russia. Writing before Russia's annexation of the Crimea, Tangredi said that any conflict between Russia and NATO forces would take on A2/AD qualities, with the most likely sources of conflict being former Soviet Union states where Russia would attempt to seize territory.[39] Cold War practices such as bomber flights over US aircraft carriers and

movement of ballistic missiles have been reinstituted. Tangredi points out the fact that Russia is the developer of many of the A2/AD weapons systems utilized by other states.[40] Like the Soviet Union, modern Russia desires to limit the West's influence and access to former Soviet Union (FSU) nations. The S-400 air defense system is superior to Western systems, its ISR and anti-satellite space capabilities are vast, and Russia is developing 5th-generation fighter aircraft. Tangredi asserts that while the Russian navy is not as strong as that of the Soviet Union, it maintains a sea-denial capability with submarines, mines, and an extensive naval long-range bomber force.[41] Russian recognizes the strategic superiority of the US Navy, and has sought to form a buffer of FSU states to account for Europe's geography. It also recognizes that the maritime domain would be the primary method for NATO to move supplies and forces into the region, and that this domain would become a battlespace. Intelligence and information would play a key part in the conflict, while Russia would seek to fan extrinsic events in other parts of the world to divide the US's attention.[42]

Russian President Vladimir Putin called the collapse of the Soviet Union "the greatest geopolitical catastrophe of the 20th Century."[43] With moves reflecting an admiration of the strength of the former Soviet Union, Putin has carried on a campaign dedicated to restoring Russia's sphere of influence. Some experts see Russia's recent moves as an effort to construct a 21st-Century version of the Soviet Union's Iron Curtain, cementing Russian Influence in Europe and the Middle East.[44] According to Tangredi, authoritarian states favor A2/AD strategies. Just as the authoritarian Soviet Union based naval strategy on A2/AD, an increasingly non-democratic Russia has constructed a similar capability. According to a joint NATO and Romania Energy Center project, "Russia's ability to contest the landmass in Europe's east may actually exceed China's capacity to keep American forces away from thousands of miles of

coastland."[45] General Breedlove identified three Russian A2/AD "bubbles" that take advantage of regional geography: the Baltic, the Black Sea, and Syria.[46] A fourth area of A2/AD concern has developed in the Arctic.

The A2/AD bubble in the Baltic is centered on the Russian naval base in Kaliningrad. This area is geographically separated from other Russian bases by Lithuania and Poland. The Russian Baltic Fleet is based at Kaliningrad, along with fighter aircraft and Iskander short-range ballistic missiles. S-400 surface-to-air missile launchers have also been placed at the base.[47] In the event of conflict in the region, US forces would rely on ports and airspace of allied countries. Unfortunately, Russia's Integrated Air Defense System (IADS) covers one-third of Poland.[48] US Air Force General Frank Gorenc, the commander of US Air Forces in Europe, described the surface-to-air missile systems of Kaliningrad as "layered in a way that makes access to that area difficult."[49] Cruise missiles and bombers based in the enclave increase the access problem for US forces, putting US ships in danger. Aircraft Carriers would find power projection over the region quite difficult with the sophisticated IADS. Although states in the area are no longer part of a Soviet Union, Russia's A2/AD capabilities are helping to ensure Russian supremacy over their sphere of influence. The bubble forming in the Black Sea has the potential to be even more complete.

The Russian annexation of the Crimea has allowed the authoritarian state to construct a formidable A2/AD bubble over the Black Sea, a body of water accessible only through a chokepoint. Long-range precision weapons and anti-ship missile systems have been put into place. These systems would challenge NATO forces and limit military options. The possession of the Crimea will allow Russia to build up its Black Sea Fleet in a relatively enclosed and protected sea. Russia desires to turn the Black Sea Fleet into a "fortress" fleet to deny access to

the Black Sea, and eventually to further develop the fleet to support operations in the Mediterranean Sea.[50] Iskander missiles, strategic bombers, and maritime patrol and anti-submarine aircraft have been added to the Crimea. One of the bombers, the TU-22M3 Backfire, is a Cold-War era bomber that was designed to attack US carrier battle groups.[51] Other Russian aircraft have taken the opportunity to overfly US ships on the Black Sea. The aircraft can carry anti-ship missiles, making it a threat to US ships in the Black Sea and Mediterranean. Russian aircraft have recently taken the opportunity to overfly US ships on the Black Sea. In response to a US deployment of the destroyer USS *Truxtun* to the Black Sea in 2014, Russia added Bastion anti-ship missiles to the Crimea.[52] The Black Sea Fleet will also receive new frigates and submarines capable of launching anti-ship missiles and laying mines. The submarines will be a threat to shipping not only in the Black Sea, but in the Mediterranean as well. This would bolster Russian efforts in Syria.

General Breedlove has expressed concern over an A2/AD bubble being created in the Eastern Mediterranean due to Russia's presence in Syria.[53] Even though Russia's moves in Syria could be an attempt to create an extrinsic event to distract from their actions in the Ukraine, the threat there must be taken seriously. Russia has equipped Syria with some of the most advanced anti-ship missiles it has developed, the P-800 Yakhont. This missile can cover the Eastern Mediterranean and can range US bases in Cyprus.[54] The missile also includes advanced radar capabilities capable of adjusting its course to target moving ships. While Russia attests it is acting in Syria to fight terrorism, the moves also appear to be a challenge to NATO. The presence of Russia's Navy and advanced anti-ship missiles threatens NATO's ability to quickly deploy assets in the region and places much of Europe within reach of ship-launched cruise and ballistic missiles.[55] Ships in the fleet are outfitted with S300 anti-aircraft missiles, posing a

significant challenge to NATO aircraft in the event of conflict. Russian ships could cover their strike aircraft with an anti-aircraft umbrella, further endangering NATO ships and bases in the region. Russia has also deployed a Krasukha-4 electronic warfare system in Syria. This system can be used to jam aircraft radars, and its positioning along with Russia's other anti-aircraft weapons has effectively eliminated the option of a West-imposed no fly zone.[56] Russia knows the US and NATO have superior power-projection capabilities, and its A2/AD answer to these capabilities could pose a true threat to NATO forces.

The final Russian A2/AD bubble, the Arctic, is perhaps Russia's strongest area. Global warming has caused many areas of the Arctic, previously blocked by ice, to become accessible to ships. Due to this fact, Russia has submitted a claim for an additional 1.2 million square kilometers of seabed to the United Nations (UN), and has begun a military buildup in the region.[57] This buildup includes the development of a Joint Strategic Command North, new bases, ports, and airfields, and air defense radar stations. Russia is currently constructing 19 bases in the Arctic, and its Northern Fleet accounts for two-thirds of the Russian Navy.[58] Russia eventually plans to build 50 new bases in the area, and its Northern Fleet has conducted multiple exercises simulating the push-back of NATO forces. These exercises are particularly concerning, as the state sees the Arctic as essential to its existence; twenty percent of the Russian Gross Domestic Product and twenty-two percent of its exports come from the Arctic.[59] Russia has also deployed its Bastion anti-ship missile system, designed to destroy enemy ships, to the area. The Bastion is coupled with the S-400 and Pantsir-S surface-to-air missile systems to form a formidable A2/AD complex.[60] The Northern fleet also received fifty additional ships in 2015, and will receive nuclear submarines and replenishment ships with a goal of a self-sufficient Arctic force by 2018.[61] Russia's ability to operate in the ice far surpasses that of the US, as the

cold-weather state possesses a fleet of dozens of icebreakers compared to the two owned by the US. It is securing large pieces of the Arctic while Western countries can only watch. Even if the UN were to deny Russia's claim to additional sea bed territory, Russia's A2/AD forces in the region would likely render that ruling moot.

CONCLUSION

A look at the requirements of an A2/AD strategy and an exploration of the history of the Soviet Union's military plans show similarities to modern Russian strategy. After the fall of the Soviet Union, the US was able to employ its forces and exert its influence at will. Many potential adversaries saw the raw power exhibited by the US military in operations such as Desert Storm, and determined they needed to develop a strategy to avoid direct confrontation with US forces. A2/AD strategies put deterrence foremost, with the desire to convince a strategically-superior adversary that an attack would be too costly. The Soviet Union rooted its military strategy in sea denial, or the ability to deny US forces access to Soviet waters and Europe during conflict. Bombers, ships, and submarines with anti-ship and anti-aircraft capability were the backbone of this strategy. Decades later, a resurgent Russia has picked up the Soviet Union's anti-access doctrine. Russia looks to cement its hold on the FSU states that form its sphere of influence. It has grabbed territory and formed an A2/AD umbrella to negate US and NATO capabilities. Cold War aircraft, ships, and submarines practice the same missions they trained for under the Soviet Union—the destruction of US forces at sea and the denial of access to regional basing. US National Security and Military Strategies have recognized the need to be ready for combat in contested environments. Unfortunately, the US military is now forced to attempt to modernize while under a constrained budget environment. While the US has reduced the flow of money to its military, Russia has increased its expenditures on its sea- and

air-denial forces. Countering the increasingly autocratic state will require new ways of thinking and operation. A true danger, Russia's A2/AD bubbles have the capacity to stifle the US's ability to "Project Power and Win Decisively," one of the pillars of US defense strategy.[62]

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