



CURTIS E. LEMAY CENTER

FOR DOCTRINE DEVELOPMENT AND EDUCATION



ANNEX 3-04 COUNTERSEA OPERATIONS

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INTRODUCTION TO COUNTERSEA OPERATIONS

Last Updated: 7 November 2014

GENERAL

Our nation depends on assured access to the world's waterways and coastal regions for global economic trade, as well as providing a stabilizing military presence abroad. These waterways, along with our maritime fleet, provide the means for projecting the bulk of our heavy forces forward, sustaining them over the long term, and projecting force ashore from the seas. Where airpower is the key to rapid forward presence and striking power over long distances, sea power is key to extended forward presence, maritime [power projection](#), mass force deployment, and sustainment through sealift. Protecting sea lanes, littorals, and our maritime assets operating within them are vital to US defense posture, economic prosperity, and national security.

Definition of Countersea

[Countersea](#) operations are those operations conducted to attain and maintain a desired degree of maritime superiority by the destruction, disruption, delay, diversion, or other neutralization of threats in the maritime environment. The main objective of countersea operations is to secure and dominate the maritime domain and prevent opponents from doing the same.

The countersea function entails Air Force operations in the maritime domain to achieve, or aid in the achievement of, superiority in that medium. This function fulfills Department of Defense (DOD) requirements for the use of Air Force forces to counter adversary air, surface, and subsurface threats, ensuring the security of vital sea and coastal areas, and enhancing the maritime scheme of maneuver. More importantly, it demonstrates the teamwork required of Service forces working together in a joint environment. **Air Force forces achieve effects in the maritime domain through the integrated employment of [airpower](#).** The overarching effect of countersea operations is maritime superiority—denial of this domain to the adversary while assuring access and freedom of maneuver for US and allied maritime forces. To this end, Air Force operations can make significant contributions to maritime components in support of joint force objectives.



THE MARITIME DOMAIN

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From a military perspective, the maritime domain is not limited to the open seas. Joint Publication (JP) 1-02, [DOD Dictionary of Military and Associated Terms](#) defines the [maritime domain](#) as “the oceans, seas, bays, estuaries, islands, coastal areas, and the airspace above these, including the littorals.” “[Littoral](#)” comprises two segments of the operational environment: 1. Seaward: the area from the open ocean to the shore, which must be controlled to support operations ashore. 2. Landward: the area inland from the shore that can be supported and defended directly from the sea. [Countersea operations](#) are equally relevant to “brown” water (navigable rivers, lakes, bays and their estuaries), “green” water (coastal waters, ports and harbors) and “blue” water (high seas and open oceans) environments. (Naval Doctrine Publication 1, Naval Warfare)

The inclusion of “the airspace above these” in the domain definition indicates the decisiveness of air operations within the maritime domain. Although the “airspace above” could be considered the air domain, **nothing in the definition of that domain implies or mandates exclusivity, primacy, or command and control of that domain.** Command and control is established through command relationships within the various operational areas as described in JP 1, [Doctrine for the Armed Forces of the United States](#), and is the authority of the [joint force commander](#) based upon most effective use of available resources to accomplish assigned missions.

With the potential emergence of a credible naval opponent, maritime operations are once again focusing on defeating enemy naval forces while retaining a focus on the role of [power projection](#) ashore from the littorals. Airpower provides a rapid, maneuverable, and flexible element in this environment. **Air Force capabilities can extend the reach and increase the flexibility of naval surface, subsurface, and aviation assets, playing a key role in controlling the maritime domain. Air Force and Navy capabilities synergistically employed enable the joint force to control the maritime domain.**



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COUNTERSEA OPERATIONS

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Countersea operations can be used in various ways to support the joint force commander's campaign. Conducted independently, or in conjunction with other military operations, countersea operations may be used for the following purposes:

- ★ At the initial phase of a campaign or major operation where the objective is to establish a military lodgment to support subsequent phases.
- ★ Serve as a supporting operation during a campaign in order to deny use of an area or facilities to the enemy, or to fix enemy forces' attention in support of other combat operations.
- ★ Support stability operations in order to deter war, resolve conflict, promote peace and stability, or support civil authorities in response to crises that require controlling the surrounding maritime domain.
- ★ Support military operations for homeland defense, by controlling use of the maritime domain along US coastal waters to prevent enemies from attacking civilian population centers, disrupting sea lines of communication, or committing terrorism on US sovereign soil.
- ★ As an independent operation without other Service forces present, to achieve operational or strategic objectives in the maritime domain.



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NAVAL WARFIGHTER PERSPECTIVE

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In order to provide context to [Airmen](#), it is necessary to discuss the Navy warfighting perspective by reviewing key precepts in Navy doctrine, because these precepts will drive maritime component planning.

US naval forces offer a specific capability to shape the maritime domain through the mobility of their platforms and extended presence. Their ability to project timely high-intensity combat power from the sea is critical to meeting joint force commander (JFC) objectives during crisis response as well as during a campaign. In peacetime, the carrier strike group, expeditionary strike group, and surface action group possess the credible military might to project power reinforcing our nation's ability to influence events, deter potential aggressors, promote regional stability and provide the requisite force to influence multinational collective security.

The ability to take the fight to the enemy at a time and place of our choosing is a forte enjoyed by naval forces, and has always been one of our nation's primary objectives in war. The Navy, Marine Corps, and the Coast Guard are the principal organizations that conduct military operations over, on, under and adjacent to the sea, overlying airspace, surface, subsurface, and ocean bottom, as well as the shoreline infrastructures that affect maritime operations. To effectively operate in the maritime domain, the Navy continuously hones its six core capabilities: Forward presence, deterrence, sea control, power projection, maritime security, and humanitarian assistance/disaster relief response (HA/DR).

Forward Presence

US naval forces are forward deployed around the clock. The forward operating posture serves several key functions: it enables familiarity with the operational environment, as well as contributes to an understanding of the capabilities, culture, and behavior patterns of regional actors, and it enables influence. This understanding and influence facilitates the following (from Naval Doctrine Publication [NDP] 1):

- ✦ A more effective response in the event of a crisis.
- ✦ Development of an environment and operational understanding and experience to successfully engage in combat operations.
- ✦ Combating terrorism as far from US shores as possible.
- ✦ Regional stability.
- ✦ A timely response to a crisis.

- ★ Mitigation of the political and diplomatic ramifications of introducing forces into the theater when crises arise.
- ★ Providing the United States with a broad range of options, unfettered by the requirement to obtain host-nation permissions and access.
- ★ Demonstration of commitment to US partners without imposing a lasting footprint ashore.

Deterrence

Deterrence is “the prevention from action by fear of the consequences. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counteraction.” (joint publication 1-02, [DOD Dictionary of Military and Associated Terms](#)) US naval forces maintain that core capability and, through employments and capabilities, deter adversaries from aggressive actions on US partners. These naval forces’ capabilities include sea-based nuclear weapons and the forward posturing of credible conventional combat power in key regions, as well as the ability to surge forces tailored to meet emerging crises.

Deterring aggression must be viewed in global, regional, and transnational, terms. Effective deterrence continues to require a comprehensive approach that includes the innovative and judicious application of all elements of national power. The Navy uses forward-based, sea-based, and forward-deployed forces; space-based assets; sea-based strategic ballistic missiles; and nuclear deterrence provided by ballistic missile submarines. (NDP 1)

Sea Control

Throughout history, control of the sea has been a precursor to victory in war. This has been accomplished through sea control and power projection, which complement one another. Sea control allows naval forces to close within striking distance to remove landward threats to access, which in turn enhances freedom of action at sea. Freedom of action at sea enables the projection of forces ashore. Sea-control operations are the employment of naval forces, supported by land, air, and other forces as appropriate, in order to achieve military objectives in vital sea areas. Such operations include destruction of enemy naval forces, suppression of enemy sea commerce, protection of vital sea lanes, and establishment of local military superiority in areas of naval operations. Sea control requires capabilities in all aspects of the maritime domain, space and cyberspace. Sea control is achieved primarily through the demonstrated use or credible threat of force. Sea control requires control of the surface, subsurface, and airspace and relies upon naval forces’ maintaining superior capabilities and capacities in all [sea control operations](#). It is established through naval, joint, or combined operations designed to secure the use of ocean and littoral areas by one’s own forces and to prevent their use by the enemy.

The United States and its allies possess a multifaceted naval force capable of dealing with opposed access and opposed transit scenarios in blue-, green-, and brown-water environments. Operations in blue water require forces capable of remaining on station for extended periods largely unrestricted by the sea state and with logistics capability to sustain these forces indefinitely. Operations in green water stretching seaward require ships, amphibious ships and landing craft, and patrol craft with the stability and agility to operate effectively in surf, in shallows, and the near-shore area of the littorals. Brown-water operations, in general terms, consist of navigable rivers, lakes, bays, and their estuaries (NDP 1).

Power Projection

[Power projection](#) takes the battle to the enemy. It means applying high-intensity, precise, offensive power at a chosen time and place to create the desired effects and achieve JFC objectives. The extent of a nation's power projection capabilities is determined by the range at which it can command and control, deploy, employ, and sustain forces. A number of countries have a local or regional power projection capability, but few have a global capability. The ability to project power increases in importance as access diminishes. US naval forces maintain the ability to globally project flexible, scalable, lethal, and sustainable power. Power projection in and from the maritime domain includes a broad spectrum of offensive military operations to destroy enemy forces or logistic support or to prevent enemy forces from approaching within enemy weapons range of friendly forces. Power projection may be accomplished by amphibious assault operations, attack of targets ashore, or support of sea control operations. (NDP 1) Naval commanders are provided with a full range of power projection options that include employment of long range cruise missiles, Marines conducting high-speed maneuvers across the shore (and inland) aided by naval surface fire support, and a great variety of weapons released from naval strike aircraft (NDP 1).

At the end of the Cold War, the emphasis of maritime warfare changed from "blue water" operations against enemy navies to "brown water" force projection ashore. The naval perspective similarly changed. To this end, **Navy and Marine Corps capabilities and operations are currently used increasingly in combination with Air Force capabilities and operations to create synergistic effects inland.**

In contrast, the growing naval threats in the 21st century, and the possibility of entering into combat with a near-peer adversary, have forced the Navy to readdress its capabilities in the blue water environment. In order to employ in this fashion, Air Force forces should be familiar with and understand the maritime warfare areas and three-dimensional battlespace from which maritime forces develop their operations.

Maritime Security

Naval forces conduct operations throughout the maritime domain and view the oceans not as an obstacle but as the base of operations and maneuver space, which they either

can control for their own use or deny an opponent. Maritime security includes a collection of tasks that are derived from agreed upon international law. Maritime security operations (MSO) are those operations conducted to assist in establishing the conditions for security and protection of sovereignty in the maritime domain. Examples of MSO include missions to counter maritime-related terrorism, weapons proliferation, transnational crime, piracy, environmental destruction, and illegal seaborne immigration.

Maritime security may be divided into *individual* or *collective* categories. *Individual* maritime security operations involve actions taken by a single nation-state to provide its safety and security, consistent with its rights. While the responsibility and capacity of individual nations to secure their territorial waters is the foundation upon which global maritime security is built, unilateral action by a single nation cannot ensure the security of the maritime domain: *Collective* maritime security is action taken by one or more like-minded nation-states to promote safety and security at sea consistent with international law. (NDP 1)

Humanitarian Assistance/Disaster Response (HA/DR)

The capabilities that allow naval forces to project combat are also effective at responding to the world's natural disasters. Operating without reliance on ports and airfields ashore and in possession of organic medical support, strategic and tactical lift, logistics support, robust communications capabilities, and premier planning and coordination tools, naval forces are ideally suited for [HA/DR](#), as the vast majority of the world's population lives within a few hundred miles of the seas and oceans.

This core capability is a clear example of goodwill of the people and of the United States and other like-minded nations. It further recognizes that HA/DR activities enable naval forces to build partnerships that serve to increase trust, enhance partner capacities, and provide the opportunity to engage with a larger set of international partners. Finally, it is increasingly recognized that HA/DR conducted by naval forces enables accomplishment of select prevent as well as prevail elements of the US national strategy. The capabilities required to perform this mission are no longer considered less important than those of combat operations. (NDP 1)



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AIR FORCE COUNTERSEA OPERATIONS

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US military airpower is particularly suited to dominating the maritime domain by virtue of its inherent offensive character, precision, speed, range, and flexibility. Long ago, maritime forces realized the power and flexibility of aircraft carrier operations over battleship operations and the distinctive advantage of using airpower to dominate the maritime domain. Subsequently, Navy and Marine aviation further developed by fielding a formidable array of carrier-based air capability enabling the maritime forces to achieve strategic, operational, and tactical effects through airpower. Today, Air Force capabilities protect and complement maritime operations. Air Force forces, by design, can augment naval forces by providing additional protection; extended reach; intelligence, surveillance, and reconnaissance; and strike capability with air, both manned and unmanned, and space platforms.

Due to their inherent flexibility and versatility, **Air Force forces can provide rapid and large area coverage and often engage the adversary long before other forces arrive, transitioning swiftly from defensive to offensive roles to dominate the maritime domain.** In certain situations Navy and Marine airpower alone is insufficient, remotely piloted aircraft are well suited to provide large littoral or open ocean area surveillance and reconnaissance over long time periods that would normally require several aircraft and air-refueling resources to accomplish. Air Force forces will likely be called upon to counter adversary maritime threats. Air Force forces should be prepared to conduct warfare in the maritime domain independently or together with Navy and Marine aviation.

Air Force countersea operations use Air Force strengths in traditional air interdiction, close air support, and counterair missions to accomplish effects in the maritime domain. From a tactical perspective, these traditional missions can be quite different in the maritime domain than missions conducted over land. Countersea operations require familiarity with naval air warfare, terminology, and command and control. This familiarity will be key in successful countersea operations in the maritime domain, and is one reason why joint training is vital.



TERMINOLOGY

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Air Force personnel operating in the [maritime domain](#) will likely do so in conjunction with maritime forces. Understanding Navy and Marine Corps terminology will contribute greatly to clear communication while minimizing confusion during operations. The following discusses Navy/Marine Corps terms used for comparable Air Force functions, missions, or capabilities. For more information regarding Naval or Marine Doctrine, see, Naval Tactics, Techniques, and Procedures (NTTP) 3-03.4 (Rev A), *Naval Strike and Air Warfare* and Marine Corps Doctrine Publication (MCDP) 1-0, [Marine Corps Operations](#).

Air Warfare vs. Counterair

[Air warfare](#) is a term used by Navy forces to indicate the action required to destroy or reduce to an acceptable level the enemy air and missile threat. The Marine Corps term, *anti-air warfare*, uses the same definition. It includes use of fighters, bombers, ship anti-aircraft guns, ship surface-to-air missiles, air-to-air missiles, cruise missiles launched from ships or submarines, as well as electronic attack to destroy, disrupt, delay, or deceive the air or missile threat before or after it is launched. It also includes measures taken to minimize the effects of hostile air action using cover, concealment, dispersion, deception (including electronic), and mobility.

Naval and Marine aviators label and define operations such as [offensive counterair](#) (OCA), [defensive counterair](#) (DCA), and [suppression of enemy air defenses](#) (SEAD) in line with Air Force and joint terminology. What is different is the Navy and Marine Corps, outside of the aviation community, identify all or partial employment in this operational function as either “air defense” or “anti-air warfare.” Thus, doctrinally the terms “air defense/anti-air warfare” and elements of “counterair” are similar. Air Force doctrine and joint doctrine identify this function solely as [counterair](#).

Air Defense/Anti-Air Warfare vs. Defensive Counterair

[Air Defense](#) (AD) is not only a mission performed by the carrier strike group (CSG) but a command and control authority (air defense commander) within the CSG and is usually located on an AEGIS-equipped surface combatant. The Navy definition of air defense is nearly synonymous with DCA.

Further confusion for Air Force forces could come from the Marine Corps definition of *anti-air warfare* (AAW) used to indicate those actions required to destroy or reduce to an acceptable level the enemy air and missile threat. This definition is more in line with Air Force function of counterair (and the Navy operational function of *air warfare*). The

Marine Corps breaks down AAW to offensive AAW (OAAW) and air defense (AD), which parallels the OCA and DCA elements of counterair respectively.

Strike Warfare vs. Counterland and Strategic Attack

Strike warfare is another potentially confusing and encompassing term Navy/Marine Corps forces use to describe what the Air Force typically refers to as counterland or [strategic attack](#). It involves Navy and Marine Corps assets (aircraft, cruise missiles, naval surface fire support, and special forces) to destroy, disrupt, delay, or neutralize enemy targets ashore. Strike warfare includes attacks against targets such as manufacturing facilities and operating bases from which an enemy is capable of conducting or supporting air, surface, or undersea operations against friendly forces. Strike warfare also includes [close air support](#) (CAS). Therefore the doctrinal term “strike warfare,” depending on its intended effect, is similar to either counterland or strategic attack.

Air Operations in Maritime Surface Warfare (AOMSW)

Air Operations in Maritime Surface Warfare (AOMSW) encompasses the following missions that break down the concept formerly known as Maritime Air Support (MAS).

- ✦ War-at-sea (WAS) strike is the execution of deliberate attacks which are offensive in nature against symmetric enemy surface combatants and materiel.
- ✦ Armed reconnaissance (AR) is a mission with the primary purpose of locating and attacking targets of opportunity (i.e., enemy materiel, personnel, and facilities) in assigned general areas or along assigned lines of communication, and not for the purpose of attacking specific briefed targets.
- ✦ Air interdiction (AI) is defined as air operations conducted to divert, disrupt, or delay the enemy’s surface capabilities before it can be brought to bear effectively against friendly forces. AI is generally conducted at such distances from friendly forces that detailed integration of each AI mission with the fire and movement of friendly forces is normally not required.
- ✦ The purpose of strike coordination and reconnaissance (SCAR) is detecting targets and coordinating or performing attack or reconnaissance of those targets.
- ✦ Counter- fast attack craft (FAC)/fast inshore attack craft (FIAC) is conducted in direct defense of maritime assets and requires increased integration between air- and surface-delivered fires and the movement of maritime forces.

C2 of the above missions will usually be exercised by the Surface Warfare Commander (SuWC) through a maritime air controller (MAC). Additionally, any available and suitably loaded aircraft may conduct AOMSW missions in order to provide a rapid response. The MAC is responsible for the coordination, tactical employment, and safety of on-scene reconnaissance and/or strike platforms. The MAC provides search and/or targeting data to achieve mission objectives against a dynamic target. Detailed integration gains importance if air and surface fires are coordinated closer to the defended unit.

WAS can be preplanned or immediate, depending on the response time and urgency required. Preplanned requests are made early enough to be included on the [air tasking order](#) (ATO). Immediate requests arise from situations that necessitate an urgent requirement for air support or to exploit a time-sensitive opportunity. Primary consideration is rapid response to counter immediate threats and attack targets of opportunity. For more on AOMSW, see Air Land Sea Application (ALSA) *Multi-Service Tactics, Techniques, and Procedures for [Air Operations in Maritime Surface Warfare](#)* (AOMSW), AFTTP 3-2.74, NTTP 3-20.8, and MCRP 3-25J, dated 15 Jan 2014.

BATTLE OF THE BISMARCK SEA (14 MARCH 1943)



Throughout July and August, Allied aircraft that had survived the Japanese invasion of the Philippines were now operating out of Australia. During the summer of 1942, Japanese forces landed on New Guinea's Papuan peninsula and began a drive toward Port Moresby. Ground fighting was fierce and, because of limited numbers operating from far away, air support was sporadic. Allied aircraft were unsuccessful in their attempts to counter Japanese shipping because they were using high level bombing techniques, which proved to be very inaccurate against ships at sea.

Fifth Air Force was organized in September 1942. Due to the archipelagic nature of the Southwest Pacific operating area, General George C. Kenney, Fifth Air Force commander, realized that the means to successfully attack shipping had to be developed.

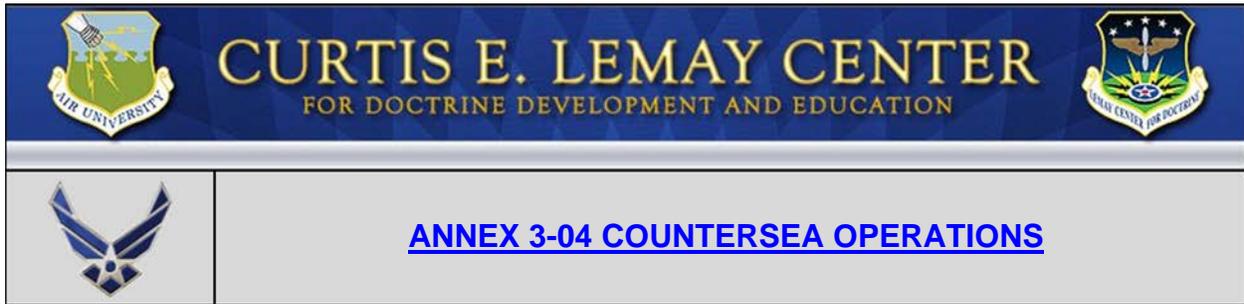
Fifth Air Force began experimenting with different ideas to improve their lethality. Their A-20s were modified by the addition of four .50-caliber, forward firing machine guns in the nose and two 450-gallon fuel tanks to extend their range. Parafrog bombs were acquired. The A-20s then enjoyed remarkable success against targets in the jungles of New Guinea. Kenney then directed that several B-25Cs be modified in a similar fashion. Since they were to operate at low altitude, the tail and belly turrets were removed. Fifth Air Force shifted from the traditional high altitude bombing to low altitude bombing. American and British tests of skip bombing showed promise. Eventually, the bombers of Fifth Air Force perfected the technique of two aircraft attacking at masthead height. One aircraft would strafe to reduce the antiaircraft artillery coming from the ship under attack, while the other would strafe and bomb at mast height.

In January and February 1943, Allied intelligence indicated that the Japanese were beginning to assemble a convoy in Rabaul for the reinforcement of Japanese forces fighting in New Guinea. On 28 February, word came that 14 ships were coming down from Rabaul. On 1 March, a B-24 Liberator spotted the convoy and for the next two days it was shadowed and harassed by the longer-range heavy bombers. Escorting P-38s engaged aircraft from Japan's Eleventh Air Fleet destroying 25 of 30 aircraft. The convoy came within range of the medium bombers on the third. Coordinated attacks by long range bombers dropping bombs from 3,000 to 6,000 feet, followed by low-level skip bombing releases from the Beaufighters and B-25s resulted in the loss of eight transports and four destroyers, along with all of the Army Division's equipment and nearly half of the unit's 7,000 men. Japanese ground forces at Lae were not reinforced, effectively ending any chances of a renewed Japanese offensive. The victory confirmed General MacArthur's growing confidence in Fifth Air Force and demonstrated the dominance of air power in the Southwest Pacific.

—Various sources

Battlespace Dominance vs. Battlespace Control

Naval forces describe *battlespace dominance* as a critical operational capability they can provide. Navy and Marine Corps operations encompass air, surface, undersea, land, space, and time. Dominance of these dimensions continues to be an important factor in the survival and combat effectiveness of their forces. Command and control integrates ships, submarines, aircraft and ground forces, to effectively extend their full range of capabilities throughout the battlespace. ([Naval Doctrine Publication 1](#) [NDP1])



ORGANIZATION, COMMAND AND CONTROL-GENERAL

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[Countersea](#) operations require maximum flexibility in organization, command, and control. Since Air Force forces may be directed to accomplish these operations in supported or supporting roles in a joint or multinational environment, adaptability is paramount. Command relationships should be tailored to account for supported and supporting roles in joint or multinational actions.

Supported vs. Supporting Relationships

A commander, such as the joint force commander (JFC), establishes support relationships when he identifies subordinate command organizations to aid, protect, complement, or sustain another force. The designation of support relationships is important as it conveys priorities to commanders and staffs planning or executing joint operations. For air operations in the maritime domain where airpower is providing the joint force commander's intended effect or is the primary combat arm, the joint force air component commander (JFACC) should be the supported commander. While capable of serving as a supporting commander to the joint force maritime component commander (JFMCC), this command relationship dilutes the disproportionate effects airpower can have for the JFC. No matter where the air operations center (AOC) location, the JFACC may serve in a supporting and/or supported role in the maritime domain. **Regardless of the support relationship, Air Force forces are best utilized when employed by a single air component commander exercising centralized control and decentralized execution of joint air operations.**

An example would be the JFACC providing air and space support to the JFMCC in the planning and execution of an [amphibious operation](#). Supporting the landing force can range from aircraft conducting close air support to an increase in communication satellite priority and utilization. The JFMCC would generally provide requirements in terms of the effects desired to meet his objectives, and possibly the specific maritime targets or target sets. The JFACC should determine how best to achieve those effects to meet JFMCC objectives and recommend the necessary apportionment of forces to the JFC. Employing those apportioned forces, the JFACC can provide the optimum support to JFMCC objectives.

Refer to Air Force Doctrine Annex 3-30, [Command and Control](#); Air Force Doctrine Annex 3-0, [Operations and Planning](#); joint publication (JP) 1, [Doctrine for the Armed Forces of the United States](#); and/or JP 3-0, [Joint Operations](#) for specifics relating to organizational structure and command relationships.



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THE COMMANDER OF AIR FORCE FORCES

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Two central ideas—the principle of unity of command and the tenet of [centralized control and decentralized execution](#)—underpin the way the Air Force organizes for operations. In any operation involving Air Force forces, a [commander, Air Force forces](#) (COMAFFOR), will exercise command over operational and administrative matters of the forces assigned and attached. Forces provided to the COMAFFOR will normally conduct operations as part of an air expeditionary task force. In this manner, COMAFFOR can present the joint force commander a tailored, task-organized, integrated package with the proper balance of force, sustainment, and force protection elements. **The COMAFFOR, whether acting as Service component commander or dual-hatted as Joint Force Air Component Commander, should be prepared and equipped to perform countersea operations either in support of maritime forces or as a supported commander if directed by higher authority.**



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THE JOINT FORCE AIR COMPONENT COMMANDER (JFACC)

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The commander, Air Force Forces (COMAFFOR) will normally serve as the joint force air component commander (JFACC), exercising [operational control](#) (OPCON) over assigned and attached Air Force assets and [tactical control](#) (TACON) over other component assets made available for tasking. These forces are generally centrally controlled and tasked from the [air operations center](#) (AOC). Tasking occurs through publication of the [air tasking order](#) (ATO). Countersea operations involving the use of air assets should likewise fall under a single authority capable of planning and directing such operations. There may be cases when, in order to ensure effective integration with carrier-based air, the [joint force commander](#) (JFC) may task the JFACC to support the joint force maritime component commander (JFMCC). Still, the JFACC must, by definition, control and execute the air assets assigned to the joint force operation, in whole or in part, depending on the situation.

A single air commander should command and control all joint air assets. The JFC normally designates a JFACC and apports joint air assets for the JFACC to control. The component commander with the preponderance of air forces and the capability to control and direct joint air operations should be designated the JFACC. [Centralized control and decentralized execution](#) serve to focus forces on theater objectives and provide commanders flexibility for employment. The JFACC should make apportionment recommendations to the JFC. Apportionment can change as the campaign progresses and/or as the operational situation changes. The JFACC should allocate the JFC's apportioned air power to best affect the JFC's intent and priorities.

Even though the JFACC and COMAFFOR will normally be the same individual, the staffs are separate and have different functions. Furthermore, JFACC staffing requires augmentation within the AOC from relevant Service components and coalition partners to ensure adequate joint and multinational representation. It is important during countersea operations that the naval liaison officer and/or Marine liaison officer assist the JFACC in having a clear understanding of the JFMCC or commander, Naval forces (COMNAVFOR), desired and prioritized effects.

The other Services have developed their air arms with different doctrinal and operating constructs in mind. Maritime forces have allowed for organic asset scheduling, command, and control utilizing their own assets for missions separate from the JFACC's control. For example, the Marine Corps expects that Marine aviation assets will be used organically within the Marine air-ground task force, during both amphibious operations and subsequent land operations. COMNAVFOR may have other mission priorities, such as undersea warfare or [air warfare](#), constraining asset availability to the JFACC. However, those organic sorties will normally be included on the ATO and the

sorties must comply with the ACO if being conducted as part of a joint force. Similar concerns also apply to the aviation arms of our allies. These constraints of air assets by their respective entities will normally be limited in time and scope to specific missions during certain phases of operations. The JFACC must account for these dynamics when developing the joint air operations plan and realize that all aircraft flying within the [area of responsibility](#) may not be available for tasking.

Sea-based JFACC

In operations where no shore-based AOC facility can initially be accommodated, the preponderance of air capability coordination may be located afloat on a US Navy command and control ship. This scenario is most likely during the initial stages of a campaign, in maritime forced entry operations or prior to shore-based AOC arrival/completion.

The sea-based JFACC positions are jointly manned by officers and enlisted personnel from the other Services who may fill key JFACC staff positions while aboard the command ship. These ships have the ability to host several hundred augmentees and have sufficient connectivity to meet requisite command and control requirements for initial operations until the JFACC is transitioned ashore.

In this arrangement, Air Force component and joint air component functions and responsibilities remain distinct; both are essential to successful joint air operations. The COMAFFOR will maintain OPCON of Air Force forces executed through an AOC and A–staff. When another Service is designated as JFACC, the COMAFFOR will provide Air Force forces TACON to the JFACC as directed by the JFC. In addition, the COMAFFOR will coordinate with the JFACC through a liaison team and fill designated billets within the JFACC staff and joint AOC (JAOC).

General Considerations for Command and Control of Joint Air Operations

When the JFACC transitions to a suitable host shore-based facility (or from shore-based to sea-based) and where the preponderance of air assets may be or may become Air Force, several concerns need to be addressed. The following is taken from JP 3-30, [Command and Control of Joint Air Operations](#).

- ★ **Planned Transition.** The JFACC should develop a plan for transition of JFACC duties to another component or location. Planned JFACC transitions are possible as a function of buildup or scale down of joint force operations. During transition of JFACC responsibilities, the component passing responsibilities should continue monitoring joint air planning, tasking, and control circuits, and remain ready to reassume JFACC responsibilities until the gaining component has achieved full operational capability.
- ★ **Unplanned Transition.** During unplanned shifts of JFACC responsibility, as a possible result of battle damage or major [command and control](#) (C2) equipment failure, a smooth transition is unlikely. Therefore, the JFC should pre-designate alternates (both inter- and intra-component) and establish preplanned responses/options to the temporary or permanent loss of primary JFACC capability. Frequent backup and exchange of databases is essential to facilitate a rapid resumption of operations should an unplanned transition occur.

★ **Transition Events.** The following events may cause the JFACC responsibilities to shift:

(a) Coordination requirements related to ATO planning and execution exceeds the component capability.

(b) Buildup or relocation of forces shifts preponderance of the air capabilities/forces and the ability to effectively plan, task, and control joint air operations to another component commander and the JFC decides that the other component is in a better position (location, C2 capability, or other considerations) to accomplish the JFACC responsibilities.

(c) Command, control, communications, computers, and intelligence (C4I) capability becomes unresponsive or unreliable.

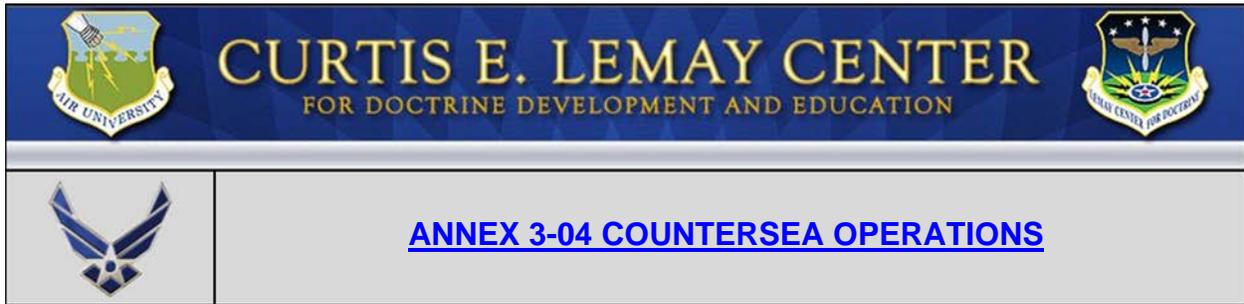
★ **Considerations.** Considerations to aid in JFACC transition planning and decisions:

(a) Continuous, uninterrupted, and unambiguous guidance and direction for joint air operations must be the primary objective of any JFACC transition.

(b) Appropriate C4I capabilities to ensure shift of JFACC duties are as transparent to the components as possible.

(c) Specific procedures for coordinating and executing planned and unplanned shifts of JFACC should be published in the joint air operations plan.

(d) The relieving component must have adequate communications, connectivity, manning, intelligence support, and C2 capability prior to assuming JFACC responsibilities.



MARITIME COMMAND AND CONTROL

Last Updated: 7 November 2014

In joint maritime operations, [command and control](#) (C2) is normally directed either from a command ship, a carrier strike group, or the lead ship in an Expeditionary Strike Group, or surface action group. The command ships have the most robust capabilities for establishing a sea-based joint force air component commander or joint force maritime component commander (JFMCC). The mobile air base and layered defense system represented by aircraft carriers and their surface screening units (cruisers, destroyers, and frigates) create a network of control options. Depending on the ships capabilities, it can integrate as part of the maritime C2 system as well as a part of the maritime layered defense system. The maritime command and control structure may differ from those used in a land-based operation and may require establishing a regional or sector [area air defense commander](#) in order to integrate and best utilize unique maritime capabilities and operations.

The [airspace control authority](#) (ACA) may designate commander, Navy forces or JFMCC as the control authority for a specific airspace control area or sector for the accomplishment of a specific mission. The massing of maritime forces into a battle force of combined arms (air, surface, and undersea) under a single commander reduces the front to be defended, enhances mutual support, and simplifies identification and deconfliction of friendly aircraft and other air defense measures. To ensure seamless integration, [unity of effort](#), and minimal interference along adjacent boundaries, the commander responsible for the maritime airspace sector should coordinate with the ACA on the items from JP 3-52, [Joint Airspace Control](#).

Maritime Airspace Sector Commander Coordination Responsibilities

- ✦ Procedures for coordination of flight information.
- ✦ Clearance of aircraft to enter and depart the maritime airspace sector.
- ✦ Procedures for assisting and coordinating with airspace control elements that respond to adjacent or supporting component commander.
- ✦ Procedures for deconfliction of operations during transitional operations and during operations in overlapping airspace areas.

Where no sector control authority is designated by the ACA and where joint operations composed of adjacent maritime and land environments exist, specific control and defensive measures may be a composite of those measures normally employed in each environment. The [joint force commander](#) for such operations needs to ensure detailed coordination of control and defensive measures with the affected air, land, and maritime

commanders. The exchange of liaison personnel at the joint force level will facilitate coordination to ensure:

- ✦ Establishment of procedures for integration and coordination of joint air operations along adjacent boundaries.
 - ✦ Agreement on procedures for coordination of flight information, clearance of aircraft to enter and depart the adjoining airspace, and the coordination of airspace control services.
 - ✦ These coordination items should be clearly stated in the [airspace control plan](#) and daily special instructions as required.
-



THE JOINT FORCE MARITIME COMPONENT COMMANDER

Last Updated: 7 November 2014

Normally, commander, Navy Forces will serve as the [joint force maritime component commander](#) (JFMCC), exercising operational authority over assigned and attached maritime assets and forces. The JFMCC role is to provide a central authority over all maritime assets operating within a given region. These forces are generally centrally controlled and tasked from the command ship within a task force. Maritime tasking occurs through publication of the maritime tasking order. Air assets conducting countersea operations could fall under the tasking of the joint force air component commander (JFACC) in serving maritime objectives within an area of responsibility (AOR) (JFACC supporting/JFMCC supported). Organic naval and marine air assets will most likely be retained for direction by the JFMCC. Detailed coordination with [air tasking order](#) tasked air assets operating within or adjacent to the JFMCC's AOR is necessary for ensuring safe, effective operations.

The JFMCC is also responsible for advising the joint force commander on the proper employment of maritime forces, and in some situations, may plan and direct limited Air Force support operations in coordination with the commander, Air Force forces. For instance, a communications support unit operating in the maritime domain may fall under the guidance of the JFMCC.



THE NAVY COMPOSITE WARFARE COMMANDER

Last Updated: 7 November 2014

Naval units are deployed in task group organizations that can be tailored to the intended employment of the force. The commander of each task group is responsible for all aspects of operations and for carrying out the missions assigned by the joint force commander. (The force is organized according to the composite warfare doctrine described in Navy Warfare Publication 3-56). Composite warfare doctrine represents the Navy's implementation of centralized control and decentralized execution. This type of planning, control, and execution allows subordinates flexibility and initiative in executing the commander's intent by telling them how their respective warfare areas contribute to overall mission success without specifically telling them how their tasks are to be accomplished. Naval doctrine makes decentralized execution and [power projection](#) tasks possible through subordinate warfare commanders who are focused on air (air defense commander or ADC), strike (strike warfare commander or STWC), sea (sea combat commander or SCC) and surface information (information warfare commander or IWC) environments. Air Force forces should view this organizational construct as similar to how the Air Force organizes an [air expeditionary task force](#).

Detailed coordination is required when operating Air Force forces in close proximity to US Navy forces or when Air Force forces are placed under tactical control or in support of the Navy Composite Warfare Commander (i.e., coordinated air defense, SCC or strike warfare operations with a carrier strike group).

Coordinating, synchronizing, and integrating land-based air operations with maritime air and sea operations are challenging, but necessary. In a joint context, maritime operations are distributed operations that stress communications capabilities. [The joint force component commander's](#) staff, as well as land-based air units, should establish communication channels and points of contact well in advance of integrated joint air operations. For example, normal Air Force mission planning timelines may not be adequate for operations with strike warfare crew mission planning on an aircraft carrier.

The criteria for either joint force or service component application are determined by the overall effectiveness and availability of appropriate forces for the task at hand. In most instances joint operations will dominate a campaign; however, in selected instances, this should not preclude the effectiveness, command, control, and economy of force considerations of single Service operations.



AMPHIBIOUS OPERATIONS

Last Updated: 7 November 2014

With increased maritime operations in the vicinity of the shoreline (the littoral), Air Force forces conducting [countersea operations](#) should be prepared to be part of amphibious operations. [Airmen](#) need to understand that amphibious operations are very intensive and complex in planning, [command and control](#) (C2), and execution. Operations in the amphibious objective area (AOA) are particularly risky due to the high density and close proximity of friendly forces attempting to achieve initial lodgment, with their variety of supporting fires. Landing forces will generally be supported by ship artillery, land-based artillery, organic Navy and Marine airpower, and Air Force [airpower](#), all using the same airspace. The risk of fratricide is high in this environment.

Airspace Control During Amphibious Operations

During maritime operations such as [amphibious operations](#), the [airspace control authority](#) (ACA) will normally designate the maritime commander as the controlling authority for a specific airspace control area during the conduct of the amphibious operation (see JP 3-52, [Joint Airspace Control](#)). The complexity and size of an amphibious operation directly affects the amount of airspace allocated. The level of airspace control allocated to the amphibious force depends on the airspace control measures approved by the ACA. If only an [area of operations](#) (AO) is established, the amphibious force may request that the ACA establish a [high-density air space control zone](#) (HIDACZ) over this geographic area. A HIDACZ is airspace designated in an [airspace control plan](#) (ACP) or [airspace control order](#) where there is a concentrated employment of numerous and varied weapons and airspace users. Access is normally controlled by the maneuver commander who has the requisite capabilities to command and control the designated area. The items shown below should be considered when establishing a HIDACZ:

- ✦ Airspace control capabilities and limitations of the amphibious force.
- ✦ Minimum risk routes into and out of the HIDACZ (and to the target area).
- ✦ Air traffic advisory requirements. Procedures and systems must also be considered for air traffic control service during instrument meteorological conditions.
- ✦ Procedures that offer expeditious movement of aircraft into and out of the HIDACZ while providing aircraft deconfliction as well as awareness to surface units.
- ✦ Coordination of fire support, as well as air defense weapons control orders or status within and in the vicinity of the HIDACZ.

- ✦ Range and type of naval surface fire support available.
- ✦ Location of enemy forces inside and in close proximity to the HIDACZ.
- ✦ At a minimum, the HIDACZ should cover the amphibious task force sea echelon areas and extend inland to the landing force's (LF's) fire support coordination line. Additionally, the HIDACZ should be large enough to accommodate the flow of fixed-wing aircraft into and out of the amphibious airspace.

C2 OF AMPHIBIOUS OPERATIONS

To conduct amphibious operations, an amphibious task force is formed as a Navy task organization in charge of the initial afloat operations. The LF is formed as a Marine Corps or Army task organization in charge of the subsequent shore operations. The two commanders are responsible for the planning of the operation. Once initiated, the commander, amphibious task force (CATF) is the supported commander until enough combat power has been built up on land. The CATF then transitions this supported role to the commander, landing force (CLF) ashore who controls operations until complete or a withdrawal occurs. When an AOA or AO is initially established, Air Force forces could be tasked to support the CATF. Later, during the amphibious operation, air forces would transition to support the CLF. **Until the requisite combat power exists ashore, the amphibious operation is quite vulnerable. It is during this transition from afloat to ashore that Air Force forces can create needed effects and play a pivotal role in the success of the amphibious operation.**

Afloat C2

While the preponderance of forces are sea-based, airspace control in the AOA will be performed by the Navy tactical air control center (TACC). The TACC role is to provide air planning, direction, and control over all air efforts within the airspace sector until such time as a land-based control center is established. Within the TACC, the Navy will produce airspace control measures for incorporation into the ACP and [air tasking order](#) special instructions. The TACC is usually collocated with the supporting arms coordination center (SACC). The SACC works closely with the Navy TACC to integrate both helicopter and fixed wing air operations with [naval surface fire support](#) (NSFS), land based artillery, and any other supporting arms. The SACC is the naval equivalent of the Marine Corps fire support coordination center (FSCC). The Marine Corps establishes a tactical air direction center (TADC) on initial build-up ashore to effect air operations through the Navy TACC.

Ashore C2

Once sufficient combat power is massed ashore, C2 of the AOA is passed to CLF. This transition requires extensive planning and coordination in execution. When established ashore, the Marine Corps's TADC becomes the TACC and the afloat Navy TACC becomes a TADC supporting the Marine Corps TACC. Also, the Marine Corps TACC works in conjunction with the Marine Corps FSCC to integrate the different arms (as the SACC performed afloat).

Close Air Support C2 During Amphibious Operations

Close air support C2 in an amphibious operation is significantly different from traditional Air Force/Army [close air support](#) (CAS) over land. Planning and coordination require familiarity with maritime terminology and C2 arrangements. Additionally, agencies controlling CAS operations will transition from afloat operations to landing force operations.

Both the Navy and the Marine Corps air control systems are capable of independent operations. However, in the conduct of an amphibious operation, elements of both systems are used to different degrees from the beginning of the operation until the C2 of aircraft and missiles are phased ashore.

Under the CATF, the Navy TACC, typically onboard the amphibious flagship will normally be established as the agency responsible for controlling all air operations within the allocated airspace regardless of mission or origin, to include supporting arms. As the amphibious operation proceeds, C2 of aviation operations is phased ashore as Marine air command and control systems agencies are established on the ground. Air C2 functions are traditionally sequenced ashore in five phases:

(1) Phase one is characterized by the arrival of various “supporting arms controllers” ashore; namely the tactical air control party (TACP), forward observers, air support liaison teams, and naval surface fire spot teams.

(2) Phase two, the Marine direct air support center (DASC) is normally the first principal air control agency ashore during amphibious operations. When control is afloat, the Navy TACC supervises DASC operations.

(3) Phase three, the movement of the Marine TADC ashore, although not directly related to CAS, is the principal event.

(4) Phase four, the senior organization of the Marine air control group is established ashore and functions as the Marine TADC under control of the Navy TACC.

(5) Phase five is characterized by the passage of command responsibility ashore. The Marine Corps TADC assumes the role of the tactical air command center and once the Marine Corps tactical air command center receives control of all LF air operations, the Navy TACC becomes a TADC supporting the land-based air control agency.



[ANNEX 3-04 COUNTERSEA OPERATIONS](#)

MULTINATIONAL MARITIME ORGANIZATION

Last Updated: 7 November 2014

Coalition Command Structures

[Multinational](#) command structures within an alliance are usually regulated by agreements, while the command structures created by a [coalition](#) tend to be more ‘ad hoc’. Factors that may influence the coalition command structure may include national caveats (tasks or missions that nations cannot perform), the seniority of the deployed national commanders and the associated capabilities of their platforms, the level of command authority granted over maritime forces and national [rules of engagement](#). Additionally, maritime forces tend to be contributed as complete entities which serve to preserve national integrity.

There are three basic coalition command structures—parallel, lead nation, or integrated.

- ✦ Within a parallel command, each nation retains control of its forces. Though Air Force forces will be operating under standardized joint guidance, they will probably be participating in maritime operations with other nations using different operating procedures. Careful coordination of multinational maritime operations is necessary to preclude conflicting operations.
- ✦ Under a lead nation command structure, the nation that supplies the preponderance of forces generally provides the overall commander of forces.
- ✦ Typically, in an integrated command structure, a single commander is designated from an alliance or coalition member nation. Additionally, the command staff, subordinate commanders and their staffs are all composed of representatives from each member nation.

Regardless of the structure, it is imperative that US personnel understand the procedures of other nations conducting operations in the maritime domain. For additional information on multinational operations, see JP 3-16, [Multinational Operations](#).



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ANNEX 3-04 COUNTERSEA OPERATIONS

COUNTERSEA PLANNING AND EMPLOYMENT

Last Updated: 7 November 2014

Countersea planning and employment of Air Force forces with maritime forces will require close coordination between maritime component planners and air operations center and unit planners. Ironing out the differences in expectations through liaison officers will reduce confusion and distraction while providing synergy, unity of effort, and effective air-sea integration. Employment in the maritime domain is enhanced greatly through integrated service collaboration, collective planning effort, and synchronized coordination in execution.



LIAISON OFFICERS AND THE AIR OPERATIONS CENTER

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Liaisons are an important aspect of joint force planning and employment. Liaison teams or individuals may be dispatched from higher to lower, lower to higher, laterally, or any combination. They generally represent the interests of the sending commander to the receiving commander, but can greatly promote understanding of the [commander's intent](#) at both the sending and receiving headquarters and should be assigned early in the planning stage of joint operations (JP 3-0, [Joint Operations](#)).

Naval and amphibious liaison element (NALE), Marine liaison officer (MARLO) and [special operations liaison element](#) (SOLE) provide the necessary face-to-face contact between Navy, Marine, and special operations planners and the [joint force air component commander](#) (JFACC) or [commander, Air Force forces](#) (COMAFFOR) and the respective planning staff. Direct communication between these individuals will help ensure mutual understanding and unity of effort, reducing friction between Services. The Navy, Marine, and special operations liaison officers participating in the air operations center planning process represent their respective component commanders, and are not assigned or attached to the COMAFFOR or JFACC staff.

The NALE, MARLO, battlefield coordination detachment, and SOLE provide the JFACC or COMAFFOR with timely information on non-familiar forces, assets, and planning opportunities to further the collective coordination and integration between components/Services. **Due to the inherently joint nature of most countersea operations, liaisons serve a vital and active role in coordinating and planning effects in the maritime domain.**

One liaison element offers coordination between the JFACC and other component or Service commanders. The joint air component coordination element (JACCE) director is the JFACC's primary operational-level conduit to the supported/supporting component. The mission of the JACCE is to enable the director to personally and effectively represent the JFACC to his counterpart component commander. The JACCE works to ensure the director has all requisite knowledge, understanding, and background information to facilitate this mission. The JACCE also can provide component-to-command level presence in the forward headquarters. It provides operational level assessment and coordination of JFACC planning and execution to ensure integration with the operations plan and operational intent to meet joint force commander guidance.

Air Force members can be expected to be liaisons to the joint force maritime component commander and/or COMNAVFOR during joint maritime operations. These Air Force liaisons within the staff(s) of the respective maritime commander offer tactical expertise,

operational guidance, proper doctrinal implementation, and real-time coordination of operations with Air Force forces.



ANNEX 3-04 COUNTERSEA OPERATIONS

COUNTERSEA OPERATIONS PLANNING CONSIDERATIONS

Last Updated: 7 November 2014

Planning for operations in the [maritime domain](#) presents many challenges. The following characteristics, conditions, and challenges found in the maritime domain should be considered in the planning process:

- ★ **Command Relationships.** Establishing proper [command relationships](#) of components and functions is necessary to achieve unity of effort in employing Air Force forces in [countersea](#) operations. The following areas and issues need resolution before moving forward in the planning process:
 - ★★ The [joint force air component commander](#) (JFACC) normally retains [Tactical Control](#) of all common/joint use sorties.
 - ★★ All air defense sorties are considered common/joint use sorties. However, fleet defense sorties are not solely air defense sorties because they tend to be dual role sorties for both air warfare and surface warfare.
 - ★★ Recognize that the commander, Navy forces (COMNAVFOR) and/or the [joint force maritime component commander](#) (JFMCC) are conducting maritime superiority operations and will retain sorties/assets for organic support.
- ★ **Areas of Responsibility.** Clearly understood [areas of responsibilities](#) are prerequisite for successful joint operations in the maritime domain.
 - ★★ The JFACC, land or sea-based, is normally also designated as the [area air defense commander](#), [airspace control authority](#), and [space coordinating authority](#) responsible for overall defense of the joint operations area and integrating all component requirements for space support.
 - ★★ The JFMCC or COMNAVFOR is typically assigned regional air defense responsibilities over water.
 - ★★ The JFACC is normally tasked to achieve functional, not regional, objectives. Whereas land and naval commanders are normally given [areas of operations](#) (AOs), the [joint force commander](#) normally tasks the JFACC with theater-wide responsibilities such as [interdiction](#) or [strategic attack](#). Per joint doctrine, AOs do not normally apply to the joint air component.

- ☆☆ [Defensive counterair](#) (DCA) operations or missions are typically sourced jointly for efficient command and control and economy of force whether over land or water.
- ★ **Strike Planning.** Strike planning should ensure maximum integration of land and sea-based air and space operations. Attention should be given to the complexity of the operation, as well as communications challenges.

 - ☆☆ Contemplate joint/combined packaging for efficient employment of available assets.
 - ☆☆ Use airborne command and control to assist real-time package coordination for joint air operations.
 - ☆☆ Cruise missile harmonization and launch deconfliction should continue to be coordinated through the JFACC and the cruise missile strike coordinator to ensure deconfliction with strike aircraft.
 - ☆☆ Flight deck operations/limitations and carrier cycle times are major restrictions to maritime flight operations and will need constant coordination between JFACC/JFMCC.
 - ☆☆ [Suppression of enemy air defenses](#) and air refueling are typically operations with the greatest demand. Consider all limiting factors when conducting strike planning.
 - ☆☆ Exchange of Air Force unit representatives with JFMCC, COMNAVFOR, and/or carrier air wings is highly effective in facilitating tactical planning and operations coordination.
- ★ **Air Refueling Operations.** Air Force assets operating near or in the vicinity of an aircraft carrier require familiarity with flight deck operations to facilitate effective [air refueling](#) operations with Navy air assets. Air refueling coordination and integration requires constant management by planners, and details need to be stated in the [air tasking order](#) special instructions.

 - ☆☆ Appropriate control procedures should be utilized combined with an awareness of potential air traffic congestion.
 - ☆☆ Organic maritime aircraft operating at lower altitudes (below 10,000 ft) can be a risk factor in the maritime operating environment
 - ☆☆ Planners should ensure air-to-air refueling procedures to be used in all JFACC-controlled air operations are clearly communicated.
 - ☆☆ Planners should ensure that aircraft assigned to refuel probe/drogue aircraft are properly configured.
- ★ **Desired effects.** Once desired effects are defined, the concept of operations and master air attack plan optimize assets and munitions based on the maneuverability, size, shape, and dimensions of surface, undersea, and other potential maritime targets.

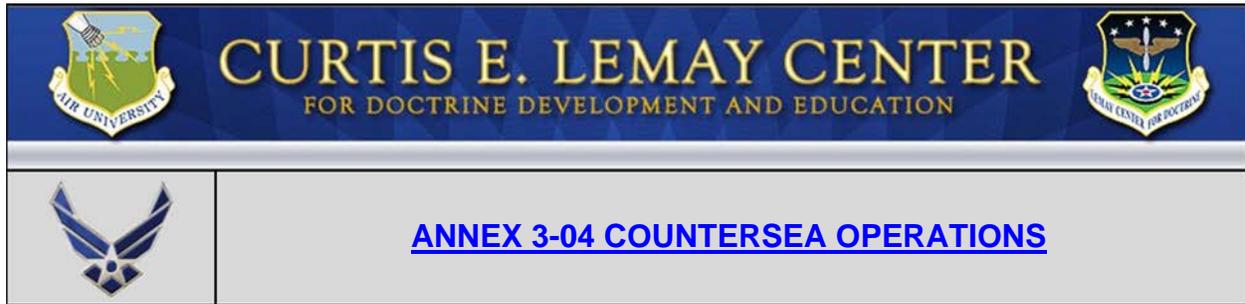
★ **Integration with maritime forces.** Many variables not encountered in typical Air Force training environments are essential to the success of planning integrated operations with maritime forces. Integration during the planning process should consider and determine issues such as:

- ★★ Maritime superiority vs. [air superiority](#).
- ★★ Joint air operations.
- ★★ Joint packaging.
- ★★ Leveraging component capabilities.
- ★★ Cross component information flow.
- ★★ Areas of responsibility.
- ★★ Air defense commander (ADC) responsibilities within the maritime AO.
- ★★ Sector and regional air defense functions.
- ★★ DCA for maritime force protection.
- ★★ Strike packaging and considerations.
- ★★ Air Operations in Maritime Surface Warfare.
- ★★ Dynamic targeting.
- ★★ Surface attacks.
- ★★ Electronic warfare support.
- ★★ Air mobility and air refueling.

★ **Environmental conditions.** Maritime domain [weather](#) conditions may change rapidly. Characteristics such as wave height and sea spray will impact visibility and radar/sensor effectiveness for platforms and munitions. Ducting, a phenomenon that allows radar energy to travel extended distances within a few hundred feet of the sea surface under some conditions, can influence tactical planning. Therefore, these conditions require thorough analysis. For example, carrier-based aircraft may encounter sea-state constraints for launch and recovery. Operations, in turn, may impact joint land- and sea-based strike packaging as well as counterair. Advance planning should address the need for sufficient air power assets to offset the loss of capability and desired effects due to environmental factors.

★ **Enemy threat, location, and capabilities.** Maritime targets tend to be more difficult to engage than land-based targets for attacking forces. The maritime domain does not provide the protection afforded by terrain for either the attacker or defender. In this medium, the threat can often detect and engage aircraft from long distances. Additionally, because maritime targets are constantly moving, maintaining target quality locating data can be challenging. Such factors may increase the number of aircraft needed to successfully strike targets or meet desired effects and objectives.

Naval nomenclature and terminology. Integration with maritime forces during employment needs to be thoroughly planned for and understood. Command and control structure, element/agency call signs, and communication procedures are, in most cases, different than those in the Air Force. Aircrew must be able to identify, understand, and interface with maritime elements. For instance, conducting close air support (CAS) in an amphibious objective area requires coordination with the direct air support center as opposed to the air support operations center in traditional CAS.



AIR FORCE OPERATIONS

Last Updated: 7 November 2014

The following sections cover planning and employment considerations for directing Air Force functions related to the protection and enhancement of maritime freedom of action.

Maritime Surveillance and Reconnaissance

In the [maritime domain](#), control must be achieved in the air, on the surface, and under the surface as part of battlespace dominance. Air Force forces help enable control of air and surface maritime areas through [intelligence, surveillance, and reconnaissance](#) (ISR) coverage and their significant abilities to collect data. Air Force forces provide rapid and large area surveillance and reconnaissance coverage, often arriving on station prior to other forces. This coverage can be used to observe the maritime domain in a [homeland security](#) role or overseas.

Planning and employing this capacity could occur as a single Service or jointly. Operations may involve interfacing with multinational forces, Navy forces, the Coast Guard, or other agencies responsible for homeland security. Preparation and execution of ISR should include coordination through liaison officers (LNOs) working in the [air operations center](#) (AOC) or with other agencies.

Some of the attributes Air Force air and space assets may offer in surveillance and reconnaissance of the maritime domain are:

- ✦ Rapid deployment to the area of interest.
- ✦ Large area coverage in a short time period.
- ✦ Ability to loiter with or without air refueling depending on platform.
- ✦ Passive and active detection, classification, and identification.
- ✦ Real time target tracking/reporting.
- ✦ Over the horizon targeting.
- ✦ Ability to transition to weapons employment depending on platform.
- ✦ Real time strike support.
- ✦ Environmental situational awareness through weather data.

- ★ Indications and warnings.
- ★ Rapid and accurate [battle damage assessment](#).

Planning for ISR operations should address the objectives of *area* and *directed* surveillance/reconnaissance, classification of contacts, prioritization of contacts, and rules of engagement relating to contact location, type, and overflight. LNOs may be a valuable source of information regarding surveillance/reconnaissance operations and associated supported [commander's intent](#). Awareness of international laws regarding use of airspace, as well as threat capabilities, helps avoid unnecessary escalation of a surveillance/reconnaissance situation.

Antisurface Ship Warfare (Surface Warfare)

Commanders may employ Air Force forces to interdict enemy maritime surface forces. These operations are conducted to destroy or neutralize enemy naval surface forces and merchant vessels. Planning should address and define marshalling areas; area of attack; [rules of engagement](#); required coordination and deconfliction with friendly vessels in or near the area of operation; fighter, joint, missile, and self-defense engagement zones; vessel identification; and other factors that may influence platform choices, weapons mix, tactics, and support requirements.

Air Force assets are capable of employing a variety of precision-guided munitions effectively against the majority of maritime surface vessels. Most Air Force fighter and bomber aircraft provide precision, cluster, and general-purpose munitions capabilities.

Today's combatant commanders require the capability to engage mobile seaborne targets in all weather conditions. While a robust capability currently exists to engage mobile surface vessels in clear air conditions using short-range munitions from strike aircraft, there is only limited capability to hit this same target set in adverse weather conditions such as low ceilings or fog when employing Air Force strike aircraft.

Air Interdiction Demonstration In The Maritime Environment



1921

US Army Air Service MB-2 bombing of German capital ship Ostfriesland



2004

US Air Force B-52 using AMSTE JDAM creating effects on ex-USS Schenectady

Analogous of the transformation from black and white to color photos, air interdiction in the maritime environment has progressed since 1921 when the first employment (83 years ago) of an aircraft against a ship proved to be an effective use of air power. In November of 2004 the Air Force conducted Resultant Fury, a two-phased demonstration featuring B-52 bombers and F-15E fighters meeting, engaging, and sinking multiple moving maritime targets. This is the first time Air Force aircraft have used the [joint direct attack munition] JDAM to sink a moving vessel. "The ability for airpower to rapidly respond and sink naval vessels is crucial in our theater," said Maj. Gen. David Deptula, director of [Pacific Air Forces] PACAF air and space operations. "We can successfully engage and destroy multiple ships in all weather, day or night."

Though maritime interdiction itself is not new, the Air Force has not practiced it a lot since before Desert Storm. However, the level of command and control and the ability to use the technology in the Global War on Terrorism is new. "We can use this technology to sink ships used by enemy combatants, terrorists, or those used for piracy," said Maj. Mike Eliason, Resultant Fury demonstration director and Chief of PACAF weapons and tactics.

Through real-time, all-weather technology, information was fed from intelligence, surveillance, and reconnaissance platforms to the Pacific air and space operations center, enabling command and control elements near real-time ability to track multiple moving sea targets and feed that information to airborne bomber pilots, allowing them to quickly engage and destroy the vessels.

–PACAF Public Affairs

NOTE: While Resultant Fury was designed strictly as a demonstration, and as such does not reflect current operational capabilities, it, like Brigadier General "Billy" Mitchell's demonstration in 1921, dramatically highlighted the potential effectiveness of airpower in the maritime environment.

Antisubmarine Warfare

Air Force forces successfully performed antisubmarine warfare (ASW) during World War II. Currently, Air Force assets could perform ASW in an ISR and interdiction role by monitoring and, if needed, attacking surfaced enemy submarines under way or in port, as well as the port itself, or locations used for refueling or supply. Additionally, currently fielded Air Force assets have sensors and weapons required to detect and engage surfaced submarines, in support of the [joint force maritime component commander's](#) (JFMCC) undersea warfare efforts. However, extensive planning and training would be required for Air Force forces to effectively attack deployed, submerged submarines.

ANTISUBMARINE WARFARE IN THE GULF OF MEXICO



The formation, equipping, and training of effective sea and air antisubmarine forces against the German offensive on the East Coast required time. The Navy, supported by the AAF [Army Air Force], gradually progressed with various defensive measures and increasingly effective air patrols forced the Germans to greater caution in the waters of the Eastern Sea Frontier. By June 1942, German submariners had turned to the less dangerous waters of the Gulf of Mexico and the Caribbean Sea.

The shift of the German submarines offensive to the Gulf overwhelmed the resources of the Navy and the AAF, which were barely adequate to defend against submarines in the Eastern Sea Frontier. The Navy had created the Gulf Sea Frontier in February 1942 with minimal surface and air forces, and the AAF had contributed only fourteen observation aircraft and two worn-out B-18s. To counter increased submarine attacks, the AAF, between May 8 and 10, sent a squadron of light bombers (A-29s) to Jacksonville, Florida, and six medium bombers (B-25s) to Miami and on May 20 - 21 sent a detachment of B-25s to Havana, Cuba, to patrol the Yucatan Channel. On May 26, the First Air Force created the Gulf Task Force and stationed it at Miami. This organization, which continued to operate until November 1942, cooperated with the Commander, Gulf Sea Frontier, to provide operational control of all AAF aircraft that flew antisubmarine patrols in the area. At the end of July 1942 the Navy instituted a convoy system in the Gulf of Mexico, and German submarines faced the same dangers they had off the East Coast. On September 4, 1942, the United States lost the last ship sunk by enemy action in the Gulf of Mexico, as Admiral Doenitz withdrew all submarines from the Gulf.

—A. Timothy Warnock

The Battle Against the U-Boat in the American Theater

Aerial Minelaying Operations

Mine warfare is defined as “the strategic, operational, and tactical use of mines and mine countermeasures either by emplacing mines to degrade the enemy's capabilities to wage land, air, and maritime warfare or by countering of enemy-emplaced mines to permit friendly maneuver or use of selected land or sea areas.” (JP 1-02, *DOD Dictionary of Military and Associated Terms*). Mine warfare is divided into two basic subdivisions: mine laying for area denial and countering enemy-laid mines. The most expeditious mine laying operations are accomplished by aircraft, including Air Force bombers, which might be the best suited for mining in threat areas.

Counterair Operations

[Counterair](#) is defined as “a mission that integrates offensive and defensive operations to attain and maintain a desired degree of air superiority and protection by neutralizing or

destroying enemy aircraft and missiles, both before and after launch.” (JP 1-02). As described earlier, “counterair” and the US Navy/US Marine Corps term “[air warfare](#)” (AW), are virtually synonymous. The Navy employs an air defense commander (ADC) as part of its composite warfare commander structure to enable air and ship platforms to engage the enemy in much the same way Air Force assets perform counterair.

Depending upon the proximity of a forward operating location to an objective area and the availability of [air-to-air refueling](#) support, commanders may employ Air Force fighter aircraft in the maritime domain to gain air superiority. Counterair is divided into [offensive counterair](#) (OCA) and [defensive counterair](#) (DCA). [Suppression of enemy air defenses](#) is a component of OCA.

Air Force forces may perform DCA to thwart enemy air and missile attacks against maritime forces. Maritime aviation protects the carrier/expeditionary strike group through the action of AW. Surface combatants and aircraft within the strike group to protect them from any air threat much the same as DCA is employed. This function is controlled by the air warfare commander. The airborne warning and control system and Air Force fighter aircraft are the primary assets to perform DCA and augment the AW mission.

Planners, with LNO coordination, should flesh out airspace deconfliction, identification procedures and responsibilities, entry and exit procedures, and minimum risk routing (MRR) within the strike group [area of operations](#) (AO). More importantly, the defining of fighter engagement zones, joint engagement zones, missile engagement zones, and/or self-defense zones is necessary to preclude fratricide.

Air-to-Air Refueling

Planning air-to-air refueling in support of maritime operations should ensure refueling compatibility between tankers and aircraft receiving fuel. Because maritime support aircraft missions generally begin from locations outside the AO, determination of air refueling tracks and offload requirements should account for operating radius of aircraft, distance to and from the area of responsibility, and threat reaction requirements. To the maximum extent possible, joint air units ordered to receive a scheduled [air tasking order](#) (ATO) offload (e.g., specified air refueling control time) should take the fully planned onload. This helps ensure timely and efficient execution of joint air operations and prevents unintentional consequences in the joint air environment. Air Force air mobility planners need to recognize the Navy/Marine practice of “opportunity tanking” and accommodate it where practicable, without sacrificing planned offloads. Flight operations aboard an aircraft carrier are very dynamic and time sensitive requiring carrier-based crews to plan their missions with flexibility with regard to fuel and timing. There are instances where extra fuel can give these aircraft, or the aircraft carrier, the needed time and flexibility to conduct their operations safely and efficiently without



KC-10 refueling F-18 with F-14 in formation

having to divert aircraft to land-based facilities. Planners should consider the use of maritime radar agencies to provide air-to-air control, thus relieving overtasked airborne control assets from this requirement.

Amphibious Operations

[Amphibious operations](#) may require Air Force forces to perform functions such as counterair to provide air superiority, [counterland](#) for interdiction and/or joint [close air support](#), [airlift](#) for air assault or resupply, and ISR from air and space assets. The [commander, Air Force forces](#) should plan with the JFMCC, commander, amphibious task force (CATF), and commander, landing force (CLF) to ensure functional integration and to accomplish the following in preparation for amphibious operations:

- ✦ [Air superiority](#) must be gained and maintained to protect the amphibious forces at sea during transition to land and until amphibious assault is complete.
- ✦ Through air interdiction, enemy forces in the littoral environment will need to be reduced or suppressed to an acceptable level prior to an amphibious assault.
- ✦ ISR assets are required to support friendly forces and to monitor enemy forces throughout the amphibious operation.
- ✦ High-density airspace control may require the JFACC to designate, along with the CATF, a subordinate ADC and [airspace control authority](#) within the amphibious objective area or [high density airspace control zone](#) depending on the area established.

Command and control requirements must be clearly established prior to employment. JFACC coordination with CATF, CLF, and subordinate agencies from initial planning through the different phases of amphibious operations to termination are key to mission success.

As an entity, amphibious operations generally follow these five distinct phases, though the sequence may vary:

- ✦ **Planning:** The period extending from issuance of the initiating directive to embarkation.
- ✦ **Embarkation:** The period during which the forces, with their equipment and supplies, are embarked (on board) in the assigned shipping.
- ✦ **Rehearsal:** The period during which the prospective operation is rehearsed for the purpose of: (1) testing adequacy of plans, the timing of detailed operations, and the combat readiness of participating forces; (2) ensuring that all echelons are familiar with plans; and (3) testing communications. Rehearsal may consist of an actual landing or may be conducted as a command post exercise.
- ✦ **Movement:** The period during which various components of the amphibious task force move from points of embarkation or from a forward-deployed position to the operational area. This move may be via rehearsal, staging, or rendezvous areas. The movement phase is completed when the various elements of the amphibious force arrive at their assigned positions in the operational area.

- ★ Action: The period from the arrival of the amphibious force in the operational area, through the accomplishment of the mission and the termination of the amphibious operation.

When amphibious forces are forward deployed, or when subsequent tasks are assigned, the sequence of phases may differ. Generally, forward-deployed amphibious forces use the sequence “embarkation,” “planning,” “rehearsal” (to include potential reconfiguration of embarked forces), “movement to the operational area,” and “action.” However, significant planning is conducted prior to embarkation to anticipate the most likely missions and to load assigned shipping accordingly. The same sequence is useful for subsequent tasks or follow-on amphibious missions.

In short, the five phases of an amphibious operation are always required, but the sequence in which they occur may be changed as circumstances dictate.

Close Air Support (CAS)

Amphibious operations may entail CAS in the littoral environment. However, there are significant differences that make this type of CAS operation more difficult than traditional CAS. Amphibious operations involve many fire support elements creating deconfliction challenges and increased potential for fratricide. Air, sea surface and sub-surface, and land elements operate and converge in one confined area to support the landing force (LF). Command and control in an amphibious operation is complex, requiring both horizontal and vertical integration bringing fire support coordination agencies under one hierarchy. All dimensions become intricately interwoven as the LF transitions to shore.

Given the challenges of CAS in a maritime domain, aircrew cannot afford to operate as tasked by the ATO without prior planning and coordination. Execution of CAS with Air Force forces during amphibious operations requires significant pre-planning, rehearsal, and clear understanding of friendly force positions as well as movement intentions. Deconfliction of airspace, target areas, and friendly locations is essential to safely executing CAS and avoiding fratricide. Aircrew operating in the dynamic environment associated with a landing force moving inland requires familiarity with geographic reference points, holding points, and entry/exit routes as determined in planning.

Space Capability

The JFACC, as the [space coordinating authority](#), will coordinate space operations, integrate space capabilities, and have primary responsibility for in-theater joint space operations planning. Planning and coordinating as early as possible to utilize joint space capabilities greatly enhance maritime operations. Space-based assets may provide a significant capability to characterize threats and identify adversary strengths, weaknesses, and vulnerabilities. Joint space assets provide global communication, bandwidth, space-based ISR, environmental monitoring, missile warning, positioning, navigation, and timing, which enhance air and maritime maneuver as well as joint fires in countersea operations. Also, space control is conducted to ensure friendly forces the ability to exploit space capabilities while negating the adversary’s ability to do the same. [Defensive space control](#) operations are important since space capabilities enable distributed operations in the [maritime domain](#).

Stability Operations

The general goals of US military operations during such periods are to support national objectives, deter war, and return to a state of peace. The various discrete military tasks associated with small-scale and security operations are not mutually exclusive; depending on the scenario, there may be some overlap among the tasks. They may also occur within the context of a larger major operation. Air Force stability operations in the maritime domain include:

- ✧ Enforcement of sanctions and/or maritime intercept operations.
- ✧ Counterdrug enforcement.
- ✧ Ensuring freedom of navigation and/or protection of shipping.
- ✧ Recovery operations.

Homeland Operations

The Air Force defines its role in homeland operations as all applications of airpower designed to detect, preempt, respond to, mitigate, and recover from the full spectrum of incidents and threats to the homeland, whether man-made or natural. This includes traditional combat operations as well as combat support. This construct for homeland operations establishes the Air Force's responsibilities in direct support of homeland security.

The United States Department of Homeland Security (DHS) works with Department of Defense (DOD) to ensure the sovereignty and security of our nation. DHS provides a comprehensive framework for organizing the efforts of federal, state, local, and private organizations whose primary functions are often unrelated to national security. Air Force forces can be employed in the role of preserving the security of our homeland by performing operations that are conducted to protect our coastal areas from various threats. Air Force homeland operations in the maritime domain include:

- ✧ [Indications and warnings](#).
- ✧ Maritime surveillance and reconnaissance.
- ✧ Anti-surface ship warfare (interdiction in the maritime domain).
- ✧ [Counterair](#).

There are differences in terminology and definitions between the DHS and the DOD. The Air Force construct for homeland security operations attempts to bridge the differences. See Annex 3-27, [Homeland Operations](#), for more detailed information regarding this matter.

Other Air Force Countersea Operations

Other Air Force operations such as [airlift](#), cyberspace operations, [information operations](#), [special operations](#), [command and control](#), [personnel recovery operations](#), and [weather](#) services may also provide support to [countersea](#) operations.



ANNEX 3-04 COUNTERSEA OPERATIONS

INTERNATIONAL LAW

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To effectively conduct [countersea operations](#), commanders, planners, and aircrews must be aware of the legal issues that can impact such operations. National policy and legal requirements dictate that countersea operations be conducted in compliance with international law. The law relating to countersea operations is particularly complex in that much of the law is customary international law developed throughout naval history. In addition, commanders, planners, and aircrews must have knowledge of the air navigation regimes that dictate where aircraft can lawfully fly. Part of the preparation for countersea operations must be a review of the [law of armed conflict](#) (LOAC) and law of the sea requirements, which affect these operations.

Portions of the United Nations Law of the Sea Convention of 1982 are consistent with customary international law concerning maritime navigation and overflight rights. Air Force members involved in countersea operations must be aware of the rights of aircraft over the various maritime zones. These zones include the high seas, exclusive economic zones, contiguous zones, territorial seas, internal waters, archipelagic waters, international straits, and archipelagic sea lanes. These zones are important because they determine the amount of control that a coastal state may exercise over foreign aircraft and ships. All of these zones are measured from national baselines, hence knowledge of where these baselines are located is essential if aircraft are to be able to assert and exercise their lawful rights in conducting countersea operations.

Some nations assert security zones beyond the limits of their territorial sea but international law does not recognize any such zone. Military aircraft generally have freedom of navigation rights outside of territorial seas. Any nation may declare a temporary warning zone including over areas of the high seas. These zones do not restrict the right of navigation but advise ships and aircraft of hazardous (but lawful) activities. These may include missile testing, gunnery practice, and space vehicle recovery operations. In the exercise of their inherent right of self-defense under the United Nations Charter, nations may declare various forms of maritime control areas. These may include air or maritime exclusion zones, or other types of defensive sea areas in which a measure of control is exercised over foreign ships and aircraft. During times of conflict, Air Force units must be particularly aware of the rights of neutral nations. These rights protect the sovereignty of neutral nations, which includes national ships and aircraft.

The upper limits of airspace have not been authoritatively defined by international law. There is a different legal regime that governs outer space, which begins at an unidentified point at which artificial satellites can be placed in orbit without freefalling to earth.

In the [maritime domain](#), LOAC, customary international law as recognized by the United States, international conventions to which the United States is a party, and national policy directives are all relevant. When planning and conducting countersea operations, commanders, planners, and aircrew should obtain the legal advice of the supporting [judge advocate](#).
