



## ANNEX 3-04 COUNTERSEA OPERATIONS

### AIR FORCE OPERATIONS

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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.

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