U.S. Navy – U.S. Air Force Relationships
1970-2010

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Purpose of this Study

♦ To provide context & perspective for decision-makers & staffs concerned with contemporary & future USN-USAF relationships, e.g.,
  ♦ Air-Sea Battle concept development
  ♦ USN-USAF headquarters staff Warfighter Talks
♦ To provide a basic resource & primer for further research & analyses by students & analysts of naval & military affairs
  ♦ This document is unique; no other work pulls this material together coherently
♦ Aimed principally – but not exclusively – at Navy audiences
Summary (I)

- USN & USAF have had a century-long relationship of cooperation & rivalry
- USN-USAF inter-service rivalry has at times been particularly intense, even legendary
- But examples of USN-USAF cooperation have been legion
- The legends of the rivalry became an influence in their own right, and have overshadowed the record of cooperation

Summary (II)

- Rivalries – and cooperation -- continued through the 1980s
- Rivalries far more tempered in 1990s & 2000s
  - Operation Desert Storm & subsequent rise of Chinese military = watershed events
- 2010 development of USN-USAF Air-Sea Battle Concept symptomatic – and a product of evolved, more cooperative nature of the relationship
Summary: What has Driven the Relationship?

- Cooperation has its benefits
- So does competition
- Why have the services cooperated? Why have they not?
- Analyzing the data yields many drivers
- Competition and rivalry occur when their drivers are more prominent
- The same is true for integration and cooperation
- From the record presented, these drivers can be identified . . .

Summary: What has Driven the Relationship?

- This study identifies:
  - 14 drivers toward cooperation
  - 18 drivers toward rivalry & competition
- Each set of drivers can be divided into four categories:
  - Conceptual & operational
  - Organizational
  - Material
  - Personal
Study Approach

- Slide format for ease of potential use by Navy & other staff officers
- UNCLAS for wider potential distribution
  - Only open literature used as sources
- Data & observations presented chronologically
  - Begins with pre-1970 legacy
  - Separate sections on 1970s, 1980s, 1990s, 2001-10
- Sought objective approach, favoring no one service

Caveats

- Study was requested by the US Navy & was Navy-funded. Written principally – but not exclusively – for use by Navy & Navy-related readers
- Assumes more reader familiarity with US Navy than with US Air Force
  - Provides more data on USAF than USN in many areas (e.g., service concepts, strategy & doctrine)
  - Related CNA studies provide Navy data (inside back cover has details)
- Study cost, time constraints precluded drafting of a narrative; or deeper treatment of pre-1970 era
- Principal author is retired US Navy officer
  - Most – but not all -- reviewers were Navy-affiliated
The Pre-1970s Deep Legacy

USN & USAF subordinated themselves to and contributed cooperatively to US national strategies & each other’s operations and capabilities

But . . . rival strategic & organizational concepts

- USN strove for autonomy within joint system & de-confliction – but not integration – with USAF, to ensure naval aviation remained integrated & inseparable (& often dominant) re: other mobile fleet elements, to apply the Nation’s sea power most effectively
- USAF & predecessor Army organizations strove for organizational separation from the ground Army (& Navy) & centralized unity of military aviation command – including command of naval aviation – to apply the Nation’s air power most effectively
  - Typically under a USAF officer
Legacy Bottom Line: Cooperation and Rivalry

- “Culture of rivalry” was famous.
- Long record of cooperation far less well-known.
- Post-1970 USN & USAF inherited these deep cultural & actual legacies
- “Culture of rivalry” greatly overshadowed record of cooperation
- Deep legacies were a powerful influence (1970-2010)
- Deep legacies sometimes still influential today

The Legacy: A Preliminary Note

- US Air Force organizational evolution
  - 1916-1918: Aeronautical Division of the U.S. Army Signal Corps
  - 1918-1926: US Army Air Service
  - 1926-1947: US Army Air Corps
  - 1941-1947: US Army Air Forces
  - 1947-present: US Air Force
The Legacy: Central USN-AAF Policy Issues

1914-1947: Air Service/Army Air Corps/Army Air Forces sought:
- Funding to develop and deploy air power
- Equality with US Navy & Army as a separate service
  - Some would subsume US naval aviation in separate air force
- An over-arching unified US defense establishment
- To limit US Navy land-based aviation capabilities & operations

1914-1947: US Navy sought:
- Funding for a balanced fleet, including air power
- To retain naval aviation as integral to the Navy's fleet
- Continued separate War & Navy Departments with no over-arching defense establishment
- To limit Air Service/Army Air Corps/Army Air Forces capabilities & operations over water

1918-1941: Air Service/Army Air Corps resisted Navy procurement & operation of land-based long-range patrol bombers
- Sought to limit Navy land-based aviation to training & support & -- later -- Pearl Harbor, Panama Canal defense

1919-1944: USN resisted Air Service/Army Air Corps roles in offshore coastal defense anti-surface warfare & anti-submarine warfare
- But in any event . . .
  - USN preferred forward fleet ops to coastal defense
  - AAF often used coastal defense as justification for developing offensive strategic bombing capability
The Legacy: Central USN-AAF Policy Issues

- **1926-1942**: AAF promoted strategic horizontal bombing vs. ships at sea; Navy developed dive bombing, torpedo bombing, scouting
- **1944-1950**: AAF/ USAF resisted Navy carrier aircraft strike roles, including nuclear, vs. shore targets
- **1944-1970**: Navy sought to:
  - Preserve operational autonomy;
  - Build, maintain robust deterrent, shore strike capabilities
    - Peer competitors (& targets) at sea had vanished after 1944
  - Resist USAF control of naval strike, strategic deterrent, early warning, & anti-air warfare (AAW) capabilities
  - De-conflict (but not integrate) with USAF operations
- **1942-1970**: USN developed, then ceded support airlift, space capabilities, missions to USAF

The Legacy: Pre-World War I Milestones (I)

- **Pre-World War I**: Both Army & Navy developed landplane, seaplane, flying boat capabilities & tactics
- **1914**: Mexican intervention
  - Navy deployed ship-based seaplanes off Tampico & Vera Cruz
    - Flew useful surveillance ops, drew ground fire
  - Army deployed aircraft to Galveston to supplement naval aviation
    - Lt Benjamin Foulois in charge
    - Saw no action
The Legacy: Pre-World War I Milestones (II)

- **1915**: National Advisory Committee for Aeronautics (NACA) created
  - Congress created, through a Naval Appropriations Act
  - To research & advise on aviation science & engineering
  - Included senior and junior Army & Navy, other members
  - Testy relations with Army; good relations with Navy

- **1916**: Joint Army & Navy Board on Aeronautical Cognizance created
  - To address inter-service airship design & employment
  - Recommended Army & Navy specific roles & missions division (1917)

- **1916**: Joint Army & Navy Aeronautical Board created
  - To reconcile service views on non-airship military aviation

The Legacy: World War I Milestones

- **1917**: Joint Technical Board on Aircraft created to standardize service aircraft designs

- **1917-18**: World War I
  - Army Air Service focus in Europe on reconnaissance, pursuit, support of ground forces.
  - Some strategic bombing efforts
  - USN included 2000+ seaplanes, flying boats, airships, landplanes & balloons – 570 deployed overseas
  - Navy role primarily ASW patrol by seaplanes
  - Army Air Service (AAS) leaders opposed Navy acquiring land-based bombers to bomb German Navy submarine pens; over-ruled by GEN Pershing
  - AAS opposed to Navy Caproni aircraft contracts

- **1918**: 4 UK-built AAS Camel fighters to US Navy for battleship gun turret launch experiments

- **1918**: Royal Naval Air Service (RNAS) merged into new, consolidated Royal Air Force (RAF)
The Legacy: Interwar Milestones (I)

- **1920s & 30s:**
  - USN developed carrier, flying boat, seaplane, airship, battleship/cruiser, some land-based patrol aviation capabilities, mostly for offensive fleet roles
  - US Army Air Service (AAS) sought to acquire & deploy long-range bombers for anti-ship coast defense
    - Stepping-stone to (& often a cover for) development of long-range strategic bombing capability & mission
  - Joint Army and Navy Board delineated service aviation responsibilities in coast defense
    - 1920, 1927, 1935
  - Agreement on airships (1921)
    - AAS deployed non-rigid airships (blimps) for coastal patrol; USN deployed rigid airships (dirigibles) for scouting
  - Periodic executive & legislative branch examinations of US defense unification & creation of a separate Air Force. Yielded no major changes to 2-service model.

The Legacy: Interwar Milestones (II)

- **1920s & 30s:** Routine Army-Navy joint exercises; routine Army Air Service (AAS) participation in Navy at-sea exercises, including strikes against shore
- **1921:** Navy Bureau of Aeronautics created
- **1921:** In Navy-run joint demonstration, Brig Gen Billy Mitchell, disregarding agreed rules he thought unfair, had AAS bombers sink unarmed stationary German battleship at sea. (Navy aircraft participated as well). Inter-service antipathies intensified
- **1924:** Navy operational support for path-breaking Army Air Service round-the-world flight
- **1925:** Navy dirigible USS Shenandoah crashed. Brig Gen Mitchell publicly attacked War & Navy Departments. Mitchell court-martialed, retired
### The Legacy: Interwar Milestones (III)

- **1926**: Congress created Army Air Corps (AAC)
- **1931**: MacArthur-Pratt Agreement: USN aviation to focus on the Fleet; No USN land-based patrol bomber aircraft; US coastal defense to Army & its Air Service
- **1931**: Widely publicized failure of AAC bombers to find, sink freighter *Mt Shasta*, off Virginia Capes
- **1933**: Army Air Corps (AAC) began use of Navy-developed Norden bombsight
- **1937**: Navy CNO Pratt retired. Navy leadership began to back off from MacArthur-Pratt Agreement
- **1937**: Naval Air Station San Diego at North Island took over neighboring AAC Rockwell Field as well
- **1937**: AAC transferred its non-rigid airships to USN

### The Legacy: Interwar Milestones (IV)

- **1937**: Seven new US Army Air Corps (AAC) B-17 *Flying Fortress* bombers “attacked” USN target ship USS *Utah* during exercises off California
  - Lead navigator: 1st Lt Curtis Lemay
- **1938**: Successful, widely-publicized AAC three-plane B-17 surveillance & interception exercise, targeting Italian liner *Rex*, 725 miles east of New York City
  - Lead navigator: 1st Lt Curtis Lemay
  - Army limited further AAC over-water ops
- **1940**: New Navy carrier USS *Wasp* (CV-7) launched 33 Army Air Corps fighters & surveillance aircraft at sea off Virginia Capes, to gather data on take-off runs of Army aircraft
The Legacy: World War II (1941-1943) (I)

♦ 1941: US Navy carrier aircraft supplemented inadequate available numbers of AAC close-support aircraft to support US Army GHQ Louisiana & Carolina Maneuvers

♦ 1941: Navy carrier USS Wasp (CV-7) ferried & launched at sea 33 Army Air Corps fighters & trainers, to provide air defense for Iceland

♦ 1942-3: Navy carrier USS Ranger (CV-4) ferried & launched at sea 300 Army Air Corps fighters to Accra, British West Africa
  ♦ 4 separate operations
  ♦ For further onward flight to China-Burma-India (CBI) and North Africa theaters of war

The Legacy: World War II (1941-1943) (II)

♦ 1941: US Navy resumed acquiring, deploying land-based patrol bombers, especially for anti-submarine warfare (ASW)

♦ 1941: US Army Air Forces (USAAF) deployed land-based bombers for ASW

♦ Mar 1942: USAAF patrol bombers placed under Navy Sea Frontier operational control

♦ Oct 1942: USAAF set up Army Anti-Submarine Air Command

♦ 1943: Inter-service agreement: US Navy took over USAAF land-based long-range over-water maritime patrol aviation responsibilities
The Legacy: World War II (1941-1943) (III)

- **1941**: USN created Naval Air Transport Service (NATS)
  - Became global inter-theater strategic USN-USMC airlift force
- **1941-2**: US Army Air Forces (AAF) obtained A-24 Banshees (from Navy-developed SBD Dauntless dive-bombers)
  - AAF aircraft less operationally successful: Different target sets & less extensive training
- **1942**: Doolittle Raid on Japan: AAF B-25 Mitchell bombers launched from USN carrier
- **1942-44**: USN commanders set up Joint Army-Navy-Marine land-based air commands to support USMC & Army in Solomons Campaign, especially Guadalcanal

The Legacy: World War II (1942-1945) (I)

- **1942-5**: USN-USMC-US Army forces seized Pacific islands for use as Army Air Forces (AAF) air bases
- **1942-45**: AAF bombers conducted anti-surface warfare ops (ASUW) & strategic mining, e.g.,
  - Battle of Midway (failed high-altitude bombing) (1942)
  - Bismarck Sea (successful “skip-bombing” tactics) (1943)
  - Mining of Japan home island waters (1945)
- **1943-1945**: Navy developed carrier strike aviation capabilities, experience vs. military targets ashore
- **1945**: Massive Navy carrier strikes against Japanese home islands military & industrial targets ashore
The Legacy: World War II (1942-1945) (II)

- **1944-5**: Army Air Forces (AAF) head Gen Arnold (as JCS executive agent) controlled independent 20th Air Force of B-29 Superfortresses for strategic bombing of Japan
  - A new 3rd major command in the Pacific, reporting to neither ADM Nimitz nor Gen MacArthur
  - Used Marianas bases recently taken by all services
- **1943-5**: Navy ordnance expertise integrated into largely-AAF atomic bomb development, operations
  - Weaponeers (“Bomb Commanders”) on USAAF B-29s vs. Hiroshima & Nagasaki were US Navy officers

The Legacy: World War II (1942-1945) (III)

- Early Army Air Forces (AAF) preference for high-altitude bombing vs. ships proved ineffective
- US Navy fleet carriers were never directly assigned to US Army theater commanders
  - Pacific Ocean Area theater commander ADM Nimitz often operated carriers in support of Southwest Pacific theater commander GEN MacArthur’s ops
  - Especially in support of Philippines campaigns
The Legacy: World War II (1942-1945) (IV)

- Both services finished World War II:
  - Proud of their victory
  - Highly experienced in single-service operations which had greatly extended the envelope of their pre-war capabilities
    - For the Navy, the “service” was the Navy as whole, including naval aviation
    - For the Army Air Forces, the “service” was the Army Air Forces, not the Army as a whole
  - Convinced that those single-service operations had been in direct and useful support to the operations of their sister services, allies, and responsive to the direction of their Commander-in-Chief
  - Anxious to develop their service capabilities even further, despite inevitable budget cutbacks

The Legacy: Postwar Milestones (1940s) (I)

  - Army Air Force leaders saw unification & Air Force autonomy as necessary if US strategic airpower was to be most effectively created & used
  - Navy leaders saw unification & Air Force autonomy as unnecessary & threatening to the proper development & application of US sea power
- 1946: JCS Outline Command Plan (1st Unified Command Plan) designated US Army Air Forces Strategic Air Command (SAC) as specified command
  - 1946-1970: Only 1 USAF general commanded a major unified regional command (Gen Norstad, EUCOM, 1956-62)
The Legacy: Postwar Milestones (1940s) (II)

1945-6: Rivalry over long-range patrol capability
- AAF touted new B-29 Superfortress; USN touted new P2V Neptune
- AAF publicized 7,500-mile unrefueled Guam-to-Washington B-29 flight (1945)
- Navy publicized 11,236-mile unrefueled Perth-to-Columbus Truculent Turtle P2V flight (1946)
  - Set distance record for unrefueled flight not broken until 1962 (by USAF B-52)

Mid & late 1940s: Both services developed nuclear weapons, delivery systems, power plants
- Navy developed nuclear-capable carrier-based aircraft & nuclear weapons
- Also submarine-launched SSM-N-8 Regulus nuclear cruise missile
- USN developed nuclear reactors for submarines; USAF studied nuclear-powered aircraft, tested components

The Legacy: Postwar Milestones (1940s) (III)


1948: Key West & Newport Agreements divided national security roles among the military services.
- New Secretary of Defense Forrestal, Joint Chiefs of Staff drafted “Functions of the Armed Forces and the Joint Chiefs of Staff” paper, including division of nuclear weapons & military aviation roles & missions among the services & their forces
- Tensions among the services would persist, however
The Legacy: Postwar Milestones (1940s) (IV)

- Each service developed & deployed forces back across the Atlantic prevent/deter/resist potential Soviet incursions in Western Europe, in “Air-Sea” support of emerging US national strategic concept of Containment
  - USN developed carrier nuclear strike capabilities, deployed & sustained combat-ready carriers & amphibious forces permanently forward in eastern Mediterranean
  - USAF forward-deployed nuclear-capable long-range bombers to bases in Great Britain & Germany

The Legacy: Postwar Milestones (1940s) (V)

- 1948: USAF-led joint Military Air Transport Service (MATS) created
  - Naval Air Transport Service (NATS) disestablished
  - 2 USN Navy Fleet Logistics Support Wings created under fleet commanders
    - Retained some long-range aircraft
  - Navy admiral became MATS deputy commander
- 1948-49: MATS-led Berlin Airlift operation
  - Significant USN contribution: 2 Pacific Fleet squadrons
- 1949: “Revolt of the Admirals:”
  - USN-USAF USS United States super-carrier vs. B-36 Peacemaker bomber debates
  - Intense internal & public inter-service controversies
The Legacy: Milestones (Korean War)

♦ 1950-53 (Korean War):
  ♦ Little unity of command
  ♦ Separate service “route packages” established
  ♦ Operational de-confliction the norm, vice integration
  ♦ Bitter inter-service antagonisms over command & control
  ♦ Conflicting USN & USAF close air support doctrines
  ♦ Operations themselves often successful

♦ Navy adopted some USAF safety practices:
  ♦ Navy aviation accident rate higher than USAF
  ♦ 1951: Naval Aviation Safety Activity created
    ♦ (1967: Became Navy Safety Center)

♦ Navy-USAF pilot exchanges began: Squadron & flight instructor duty & test pilot schools, war college exchanges

The Legacy: Milestones (1950s) (I)

♦ 1950s: USN space program rivaled USAF
  ♦ 1957: Naval Research Laboratory (NRL) launched ill-fated Vanguard satellite
  ♦ 1959: Chief of Naval Operations (CNO) ADM Burke tried to establish joint US space command. USAF opposed.
  ♦ 1960: NRL launched Galactic Radiation & Background (GRAB): 1st US electronic intelligence (ELINT) satellite
  ♦ 1960: Naval Space Surveillance System (NAVSPASUR) “Space Fence” established
  ♦ 1960: Secret National Reconnaissance Office (NRO) created. Took over GRAB program.
  ♦ 1959: USAF introduced term “aerospace” into US military lexicon
**The Legacy: Milestones (1950s) (II)**

- **1954-1965**: USN Atlantic & Pacific continental air defense & at-sea barrier early warning commands
  - Integrated into USAF-led joint Continental Air Defense Command (CONAD) system
  - Deployed land-based tactical fighter & maritime patrol aircraft, blimps, station ships
  - Little USN enthusiasm
  - To forestall USAF encroachment into over-water ops
- USN reluctance to commit forces & technology to continental air defense helped lead USAF to develop its own airborne early warning capability
  - Would culminate in USAF 1970s E-3 AWACs system

**The Legacy: Milestones (1950s) (III)**

- **1956**: Secretary of Defense Wilson designated Secretary of the Air Force as single manager for Defense Department airlift services
- **1957**: Navy Fleet Logistic Support Wings were disestablished, transferred long-range aircraft to Military Air Transport Service (MATS)
  - MATS still included Navy crews, other personnel
- **1956**: USN Regulus cruise missile tests began at Bonham AFB, Kauai, Hawaii
  - **1958**: Navy Pacific Missile Range Facility (PMRF) established at Bonham AFB
The Legacy: Milestones (1950s) (IV)

- New USN carrier-based fighters now equal in performance to USAF fighters (e.g., F-8 Crusader, F-4 Phantom II)
- Each service continued to develop & deploy separate strategic & tactical nuclear weapons & delivery systems
- Each service adapted some systems developed by the other
  - E.g., USAF adapted USN-developed H-21 helicopter, Sidewinder, Sparrow missiles
- USAF continued to press for centralized operational control of most US military aviation as most effective use of air assets. Navy, other services opposed
  - Navy saw naval aviation as integral to Fleet operations

The Legacy: Milestones (1960s) (I)

- **1960:** USN deployed nuclear-powered ballistic missile submarines (SSBNs).
  - Carrier nuclear strike roles became secondary
  - LANTCOM & PACOM held OPCON over SSBNs.
  - Strategic Air Command (SAC) retained OPCON over Inter-Continental Ballistic Missiles (ICBMs), strategic bombers, tankers
- **1960:** Joint Strategic Target Planning Staff (JSTPS) established
- **1961:** 1st Single Integrated Operational Plan (SIOP) for strategic nuclear targeting took effect
  - Institutionalized Navy-Air Force strategic nuclear planning coordination
The Legacy: Milestones (1960) (II)

♦ 1961: SECDEF McNamara made USAF responsible for US military space programs
  ♦ USAF-dominated North American Aerospace Defense Command (NORAD) assumed operational control of USN SPASUR “space fence”

♦ 1961: Kennedy administration terminated USAF nuclear-powered aircraft development program
  ♦ (Army program scaled back, following reactor explosion)
  ♦ USN retained monopoly on military nuclear power

♦ 1961-1975: USN at-sea astronaut recovery ops

♦ 1962: Cuban Missile Crisis: USAF RB-47 Stratojets & other aircraft helped search the North Atlantic for Soviet ships transporting missiles to Cuba

The Legacy: Milestones (1960) (III)

♦ 1962: US Defense Department adopted one standard unified system of mission-based designations for aircraft of all services
  ♦ Based on 1948-1962 USAF system
  ♦ E.g., USN now re-designated and re-named the F4H-1 Phantom to F-4 Phantom II

♦ 1962: USAF passed command of NATO airfield at Keflavik, Iceland to USN

♦ 1964: USAF transferred Pacific Missile Range Facility (PMRF) and Bonham Air Force Base (Kauai, Hawaii) to USN
  ♦ Became PMRF Naval Station Barking Sands
The Legacy: Milestones (1960s) (IV)

- **1966:** Major USN salvage operation to retrieve USAF B-52G *Stratofortress* H-bomb lost off Palomares, Spain
- **1968:** USAF EC-121 *Warning Star* surveillance aircraft began over-water patrols in the Greenland-Iceland-United Kingdom (GIUK) Gap
- **1961-68:** Abortive SECDEF McNamara common USN-USAF strike aircraft program (TFX, later F-111)
- **USAF** (often reluctantly) adopted USN-developed aircraft, weapons, e.g.,
  - B-66 *Destroyer*, F-4 *Phantom II*, A-7 *Corsair II*, *Shrike* missile, etc.
  - Heavy SECDEF, OSD pressure in most cases

The Legacy: Milestones (1960s) (V)

- **1969:** USN created “Top Gun” Fighter Weapons School
  - Used USAF T-38s, then F-5Es as aggressor aircraft
- **USN** ceased contributing strategic airlift crews & aircraft to Military Air Transport Service (MATS)
  - All USN wings and squadrons in MATS were disestablished
  - USN kept a land-based intra-theater airlift role
- **USN Military Sealift Command (MSC)** operated missile range instrumentation ships (AGMs) in support of USAF missile test data-gathering programs
  - Ships transferred from USAF to USN (1964)
Service Comparisons: 1970-2010

Department of the Navy & Department of the Air Force budget levels have fluctuated, but have been more or less similar (1970-2010)
- Navy budget includes US Marine Corps
- Air Force budget includes national intelligence programs

US Navy & US Air Force active uniformed personnel levels have declined considerably (1970-2010)
- **1970s**: Many more USAF active personnel than USN
- **2000s**: About the same number in each service
1970s: USN-USAF Relations

Both cooperation & rivalry persisted
Continued Navy resistance to subordination to USAF operational commanders
Rise of Soviet Navy led to renewed USAF interest in counter-sea ops & cooperation with USN, & increased USN acceptance of USAF roles
Internal budgetary pressures & outside stimuli drove the Navy to continue to cede to the USAF primacy in important support programs: Space systems & operations, Airlift.
### 1970s: Context for USN–USAF Relations

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### 1970s: TOA $ by U.S. Military Department

- **Navy** (including Marines)
- **Army**
- **Air Force**
- **Coast Guard** (DOT/DHS)

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<th>Year</th>
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1970s: The U.S. Air Force (I)

- USAF post-Vietnam War deployment strategy:
  - USAF tactical aircraft (TACAIR) in ready forward Europe/WESTPAC garrisons
  - Strategic forces in ready continental United States (CONUS) garrisons
  - Frequent alerts, surges & other exercises
- Heavy & increasing USAF purchases of newly-developed F-15 *Eagles*, F-16 *Fighting Falcons*, A-10 *Warthogs*
- E-3A *Sentry* Airborne Warning and Control System (AWACS) aircraft introduced (1977)
1970s: The U.S. Air Force (II)

- Continued heavy influence of strategic bomber pilots within USAF
- Shift in USAF analytical focus from East Asia to Central Europe
  - Increasing attention to AirLand ops with US Army
- CSAF Gen David Jones created Air Staff “Checkmate” division (1976)
  - Analysis of Soviet thinking & ops, & optimal use of US airpower vs. Soviets at operational level of war
  - Focus on centralized management of air battlespace
- No US Air Force officers assigned to command regional joint unified commands

1970s: U.S. Air Force Basic Doctrine (I)

- Succession of basic USAF doctrinal pubs
- Air Staff drafted
- United States Air Force Basic Doctrine (AFM 1-1) (1971)
  - Strategic nuclear warfare = highest USAF priority
  - Non-nuclear conflicts required sufficient general purpose forces capable of rapid deployment & sustained ops
  - USAF to support Special Operations
  - No specific mention of support to other ground ops
  - Discussed role of Air Forces in Space
1970s: U.S. Air Force Basic Doctrine (II)

- Evolution
  - *United States Air Force Basic Doctrine* (AFM 1-1) (1975)
    - Continued primacy of strategic nuclear warfare
  - *Functions and Basic Doctrine of the United States Air Force* (AFM 1-1) (1979)
    - Primacy of “strategic aerospace offense”

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1970s: U.S. Navy Capstone Documents

- Little or no mention of USAF contributions, capabilities, or limitations in USN capstone strategy, policy & concept documents of the decade
  - “Project SIXTY,” “Missions of the Navy,” NWP 1
### 1970s: USN-USAF Staff Relationships

- **DoD-wide “Total Force Concept” instituted (1970)**
  - Greater Reserve/Guard participation in service missions
  - Based on successful USAF concept
  - Navy had opposed; maintained most Navy missions required active forces only

- **Limited but path-breaking USN-USAF Memoranda of Agreement (MOAs)**
  - Mostly re: Strategic Air Command (SAC) B-52 mine laying, air refueling, anti-surface warfare, surveillance ops

- CNO ADM Elmo Zumwalt initiative to qualify USAF units on USN carriers (1972)
  - Aborted. Little enthusiasm in either service

### 1970s: USN-USAF Operational Relationships

- **De-conflicted but not integrated or centralized USN & USAF air operations over Vietnam (through 1973)**
  - Same “route package” system used in Korea
  - USN-USAF inter-service relations less bitter than Korea
  - More mutual respect & deference
  - USAF still chafed at lack of unity of command

- **USN 6th Fleet supported USAF Operation Nickel Grass resupply of Israel during Yom Kippur War (1973)**

- **USAF helicopters replaced air wing, operated from USN carrier USS *Midway* during evacuation of Saigon (1975)**

- **USN-USAF-USMC SS *Mayaguez* rescue op (1975)**
1970s: USN-USAF Operational Relationships

- B-52 Indian Ocean & Gulf maritime surveillance ops from Guam (1979)
  - USN carrier fighter escort in Gulf of Oman
- Coordinated USAF, USN Southwest Asia (SWA) deployments (1979)
  - USAF F-15s, E-3 AWACS, USN carrier Constellation to Saudi Arabia & Persian Gulf, to demonstrate US support to Saudis in response to war in Yemen
- Disastrous joint “Desert One” Iran hostages failed Operation Eagle Claw rescue operation (1980)
  - Included USN (some with USMC aircrew) & USAF aircraft
  - USN-USMC helicopter/ USAF aircraft fatal collision

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1970s: USN-USAF Operational Relationships

- Near Term Prepositioning Force (NTPF) support for USAF Tactical Fighter Squadron (TFS) deployments in Southwest Asia (SWA) contingencies
  - 1 ship of 7 deployed to Diego Garcia (1980)
- Continued USN MSC operation of missile range instrumentation ships (AGMs) in support of USAF missile test data-gathering programs
  - Former SLBM test ship USNS Observation Island (AG-154) re-designated (AGM 23) (1977)
- Continued USN at-sea astronaut recovery ops (1961-1975)
1970s: Exercise and Training Relationships

- USAF sea surveillance & attack exercises
  - USAF “Busy Observer” surveillance ops began (1975)
  - USAF B-52 Stratofortress mine-laying tests (1978)
- USAF Tactical Air Command (TAC) F-111 & RF-4 “Sea Flirt” surveillance program
- Fighter training
  - Unsatisfactory USN & USAF Vietnam War air-to-air experiences
  - USN “Top Gun” Fighter Weapons School (1969)
    - Used USAF T-38s, then F-5Es as aggressor aircraft
  - USAF followed suit (1975)
    - “Red Flag” advanced aerial combat training exercise
- Navy-USAF pilot exchanges: Squadron & flight instructor duty & test pilot schools, war college exchanges

1970s: Tactical Aviation Relationships

- US naval aviation continued to refine its capabilities & Tactics, Techniques & Procedures (TTP) for autonomous strike, anti-air warfare (AAW) campaigns
  - De-confliction as necessary with USAF
    - Vietnam War “route packages” policy
- USAF frustration with Vietnam War air ops command divisions (including naval aviation operational autonomy)
  - But less than frustration after Korean War
  - And less than frustration with USAF command & control arrangements with other services within Vietnam
1970s: Electronic Warfare Relationships

- Electronic warfare (EW) aircraft jam enemy radars & enable Suppression of Enemy Air Defenses (SEAD)
- USN introduced EA-6B *Prowler* (1971)
  - Replaced EKA-3B *Skywarrior*
  - Continually upgraded throughout the decade
- USAF flying EB-66 Destroyer (through 1976)
  - Based on Navy A-3 *Skywarrior* design
- USAF invested heavily in low-observable, reduced signature “stealth” technology for its future tactical & strategic combat aircraft
  - Could reduce the need for EW aircraft

1970s: Aerial Refueling Relationships

- Incompatible USN, USAF air refueling systems
  - USN, USAF TAC “probe & drogue” (flexible, multi-aircraft)
  - USAF “flying boom” (Hi fuel flow rate to SAC bombers)
  - Successful limited USAF KC-135 *Stratotanker* “probe & drogue” support of USN TACAIR in Vietnam (1960s-70s)
- SECDEF Schlesinger directive that USAF SAC tankers refuel USN, USMC transoceanic aircraft flights (1975)
- USN-USAF Aerial Refueling Systems Advisory Group (ARSAG) created (1978)
1970s: Strategic Nuclear Relationships (I)

- US strategic nuclear triad included both USAF & USN forces
  - Centralized targeting (JSTPS)
  - No unity of command
    - SAC (specified command) had OPCON over bombers, ICBMs
    - LANTCOM & PACOM (unified commands) had OPCON over SSBNs
  - Service perspectives differed
    - Strategic nuclear deterrence the primary USAF mission
      - Strategic bomber community dominated USAF policy
    - Strategic nuclear deterrence one of several USN missions
      - No dedicated strategic force community
      - Carrier aviation nuclear weapons no longer in Single Integrated Operational Plan (SIOP)
      - Same USN Submarine Force manned SSNs as SSBNs

1970s: Strategic Nuclear Relationships (II)

- Navy Ocean Surveillance Information System (OSIS) fed offshore Soviet Yankee SSBN threat data to SAC
1970s: Airlift Relationships

- USN kept a land-based intra-theater airlift role
  - SECDEF Schlesinger sought to consolidate all service Operational Support Aircraft (OSA) under USAF (1974)
  - Congress overruled the administration
  - CNO designated Chief of Naval Reserve (CHNAVRES) as Navy Executive Agent for Navy airlift (1977)
- Unified Command Plan designated MAC as a Specified Command (1977)
  - USN had opposed
  - Joint Deployment Agency (JDA) created (1979)

1970s: Space Relationships

- Change in DOD space policy (1970)
  - All services allowed to develop new space systems
  - USAF had had sole responsibility (since 1961)
  - USAF still predominant US service in Space
- USN pushed forward immediately to develop ocean surveillance, tactical FLTSATCOM & TIMATION systems
  - Joint USAF-USN FLTSATCOM program (1971)
    - Inter-service relationships sometimes stormy
    - 1st FLTSAT launched (1978); all launched by 1980
  - TIMATION placed under USAF-led GPS effort (1973)
- High USN use of USAF space systems
  - E.g., “Slow Walker” use of USAF Defense Support Program (DSP) satellites to track closing Soviet aircraft
  - Modest USN funding of some USN space systems
1970s: Systems Relationships

♦ USAF Tactical Air Command (TAC) flying USN-developed A-7 Corsair II, F-4 Phantom II aircraft
♦ USAF light Weight Fighter Program spawned 2 competitive designs (YF-16 & YF-17)
  ♦ USAF selected YF-16, to become F-16 Fighting Falcon
  ♦ USN later developed YF-17 into F/A 18 Hornet
♦ USN adapted USAF-developed AGM-65 Maverick air-to-ground missile

1970s: Basing Relationships

♦ USN took over USAF Kindley Field in Bermuda (Renamed NAS Bermuda) (1970)
♦ Naval Ordnance Test Unit (NOTU) – which supports test launches of US Navy submarine-launched ballistic missiles -- moved headquarters from Patrick Air Force Base to Cape Canaveral Air Force Station (1977).
Both cooperation & rivalry persisted
- Continued growth of Soviet Navy led to increased USAF counter-sea roles
- Congressional & public dissatisfaction with perceived failings of inter-service cooperation resulted in stronger roles for Chairman of the Joint Chiefs of Staff, Unified & Specified commanders (1986 Goldwater-Nichols Act (GNA))
  - USN was most outspoken service opposing GNA
- USN resisted subordination to joint -- & therefore potentially USAF -- commanders -- to little avail
  - USCENTCOM, USTRANSCOM, USSPACECOM, USSOCCOM created, against USN opposition
1980s: USN-USAF Relationship: Bottom Lines

- Navy continued to resist -- & ignore -- USAF-led joint policies re: command & control of air operations
- Navy pleased with itself, its strategy & its systems
- New aggressive USAF strategic thinking developing, as leadership shifted from bomber pilots to fighter pilots

1980s: Context for USN–USAF Relations

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<th>World Events</th>
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<td>Reagan</td>
<td>Lehman</td>
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<td>Israeli Bekaa Valley AAW wins</td>
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<td>Weinberger</td>
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<td>Gabriel</td>
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<td>Beirut/Grenada</td>
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<td>Gorbachev GSCPSU</td>
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<td>Walkers arrested</td>
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<td>Cold War Ends</td>
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<td>Iraq invades Kuwait</td>
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1980s: TOA $ by U.S. Military Department

1980s: US Service Active Duty Personnel
1980s: The U.S. Air Force (I)

- USAF deployment strategy
  - TACAIR in ready forward Europe/WESTPAC garrisons
  - Strategic forces in ready CONUS garrisons
  - Frequent alert, surge & other exercises

- New aircraft types introduced
  - F-117 *Nighthawk* stealth fighter (1983); B-1B Lancer (1985); F-15E *Strike Eagle* (1988)

- Continued heavy USAF purchases of new F-15s, F-16s, A-10s

- Air-launched & ground-launched nuclear cruise missiles deployed (ALCM, GLCM)
  - GLCMs later withdrawn due to treaty w/ Soviets

1980s: The U.S. Air Force (II)

- Increasing leadership role in USAF for fighter community vice bomber community
  - All Chiefs of Staff of the Air Force (CSAFs) from bomber community until 1982; then from fighter community

- Continued TAC use of USN-designed aircraft
  - A-7 *Corsair II*, F-4 *Phantom II*

- No US Air Force officers assigned to command regional joint unified commands
1980s: The U.S. Air Force (III)

- Air University created Center for Aerospace Doctrine, Research & Education (CADRE) (1983)
  - Part of renaissance of USAF thinking about air power
- Evolution of Air Staff “Checkmate” Division focus
  - USAF-US Army AirLand Battle “31 Initiatives” support (from 1984)
  - Refinement of Col John Warden’s airpower dominance theory (from 1988)


  - “Strategic aerospace offense” = leading USAF mission
  - “Aerospace maritime ops” included as USAF mission
  - Air Staff drafted
- Col John Warden USAF, The Air Campaign (1988)
  - Stimulated in part by advent of The Maritime Strategy
  - Themes: Airpower dominance; airpower-centered approach to warfare
  - Independent air ops yield potentially decisive effects
  - Short, powerful, simultaneous air attacks on centers of gravity, especially leadership

- Push to enshrine USAF doctrine within joint doctrine
- SECAF Rice, *Global Reach-Global Power* (1990)
  - Inspired in part by success of *The Maritime Strategy*

1980s: U.S Navy Capstone Documents

- Successive editions of *The Maritime Strategy*:
  - Provided detailed explanation of coordinated USN & USAF operations, especially vs. Soviets & their allies
  - Included graphic illustrations & pictures of USAF capabilities, deployment & employment
1980s: USN-USAF Staff Relationships (I)

- Increased USN-USAF dialogue & cooperation
  - Navy-SAC MOA (1984) on B-52 Stratofortress maritime support for regional unified commanders – in-chief (theater CINCs)
  - B-52 ASUW Harpoon, mining capabilities, exercises
  - USAF air refueling & E-3 Sentry AWACS support

1980s: USN-USAF Staff Relationships (II)

- USN components under new USAF general officer-led joint operational functional commands
  - NAVSPACECOM under new USSPACECOM (1985)
  - MSC under new USTRANSCOM (1987)
  - USN had opposed creation of both commands, and subordination of Navy component commands. Overruled.

- New US Special Operations Command (USSOCCOM created (1987)
  - No US Navy special operations aviation units; Navy SEALs supported by US Army & US Air Force special operations aircraft

- Brief OPNAV (OP-603) – Air Staff strategy office Action Officer exchange (mid-decade)
1980s: USN-USAF Staff Relationships (III)

- De-confliction of Navy & Air Force theater component commander war plans
- Development of a large corpus of joint doctrine, TTP
  - Joint air doctrine often led by USAF concepts
    - 1st doctrinal appearance of Joint Forces Air Component Commander (JFACC) concept
      - Guidelines for tactical control of USMC aircraft
  - Joint air doctrine often ignored by Navy

1980s: USN-USAF Operational Relationships

- Small-scale joint operations: Grenada, Libya, Persian Gulf, Panama
- Goldwater-Nichols Act strengthened CINC ability to coordinate & integrate subordinate service components (1986)
- USAF TAC Combat Air Patrol (CAP) over USN SSNs during Arctic Ice Ops, vs. Soviet recce
1980s: USN-USAF Operational Relationships

- USN Military Sealift Command (MSC) deployed prepositioning ships forward with USAF munitions
- Continued MSC operation of missile range instrumentation ship USNS Observation Island (T-AGM 23) & other ships in support of USAF missile test data-gathering programs
- New York Air National Guard (ANG) 109th Airlift Wing began flying search and rescue (SAR) missions as part of long-running (since 1955) USN-led Operation Deep Freeze in Antarctica, supporting US scientific activities

1980s: USN-USAF Operational Relationships

- Libya joint strike ops (1986)
  - Operations Attain Document & El Dorado Canyon
  - Simultaneous USN-USMC & USAF strikes geographically separate & de-conflicted
  - Little unity of command
  - Some in USN viewed USAF participation as unneeded
  - Most significant joint air ops between Vietnam & Gulf wars
  - USAF E-3 Sentry AWACS support to USN surface forces
  - Operations Earnest Will & Praying Mantis
  - USAF tankers refueled USN TACAIR over Gulf
  - USAF transport aircraft airlifted USN Mine Countermeasures (MCM) forces forward
1980s: Exercise and Training Relationships

- Heavy USAF participation in USN-led maritime exercises. Especially maritime-equipped B-52s
- USN Naval War College (NWC) Global War Games include USAF players
- Continued Navy-USAFC pilot exchanges: Squadron & flight instructor duty & test pilot schools, war college exchanges

1980s: Tactical Aviation Relationships (I)

- Further refinement of US naval aviation Tactics, Techniques & Procedures (TTP)
  - To conduct autonomous strike & AAW campaigns on NATO flanks & NE Asia; and small-scale contingency strikes
  - De-confliction with USAF as necessary
  - Close cooperation in Pacific theater
- Navy tactical aircraft accident rate reduced to level comparable to that of USAF
  - Navy introduced F/A-18 Hornet (1983)
1980s: Tactical Aviation Relationships (II)

- USAF TAC community focused on relationship to new US Army AirLand Battle doctrine
  - Ongoing issues: Battlefield & theater command & control; air interdiction; close air support; fire support coordination line (FSCL)
- USAF replaced Iceland air defense F-4 Phantoms with new F-15 Eagles (1985)

1980s: Electronic Warfare Relationships

- USN continued to fly EA-6B Prowler
  - Used ALQ-99 jamming system
- USAF introduced EF-111 Raven (1983)
  - Replaced B-66 Destroyer
  - Used AN/ALQ-99E jamming system, developed from USN’s ALQ-99
- USAF deployed stealthy F-117 Nighthawk tactical fighter-bombers & B-2 Spirit long-range bombers
  - Stealth technology seen as reducing requirement for dedicated EW aircraft
- SECDEF & OSD directed development of Navy stealthy Advanced Tactical Aircraft (ATA)
1980s: Strategic Nuclear Relationships

- Strategic nuclear deterrent triad continued
- US nuclear force operational command structure remained divided among SAC, USLANTCOM, USPACOM, USEUCOM
  - USN successfully resisted periodic attempts to put USN SSBNs under operational control of a joint unified Strategic Command
- Navy Ocean Surveillance Information System (OSIS) continued to feed offshore Soviet Yankee SSBN threat data to SAC

1980s: Aerial Refueling Relations

- Abortive US Navy land-based tanker procurement initiative (1984-6)
- Increased USAF SAC tanker modifications to support USN aircraft
- New USAF KC-10 *Extender* tanker employed both booms and hoses & drogues, to service both services’ (and allied) aircraft (from 1981)
- Despite increased USN use of USAF tankers, still some USN operator antipathy to the practice
  - Some complaints that USAF “hard baskets” can damage fuselage panels on sides of USN refueling probes, unlike USN “soft baskets”
1980s: Space Relationships (I)

- Major organizational changes
  - Naval Space Command created (1983)
  - Unified joint US Space Command created (1985)
    - Navy had opposed
    - CINC always from USAF; Deputy always from Navy

1980s: Space Relationships (II)

- Continued high Navy demand for and use of USAF space systems
- Navy was assigned Alternate Space Control Center (ASCC) mission (1987)
- Continued modest Navy funding of space systems
- USAF launched 1st Global Positioning System (GPS) satellites (from 1988)
1980s: Systems Relationships (I)

♦ Strategic Air Command declared six B-52 squadrons capable of maritime surveillance & mining

  ♦ At Loring (Maine) & Anderson (Guam) AFBs


1980s: Systems Relationships (II)

♦ USAF adoption of Navy-developed High-speed Anti-Radiation Missile (HARM)

♦ USAF developed, built up arsenal of precision-guided munitions (PGMs)
  ♦ USN lagged

♦ New Navy Advanced Tactical Aircraft (ATA)
  ♦ USAF cooperation re: stealth technology for new Navy stealthy attack aircraft -- later designated the A-12 Avenger II

♦ New USAF Advanced Tactical Fighter (ATF)
  ♦ USAF developed, tested prototypes (later became F-22 Raptor)
  ♦ Navy funded study & initial development of Navy Advanced Tactical Fighter (NATF) variant (1986)
1990s: USN-USAF Relations

- Strengthened Goldwater-Nichols Act roles for the Chairman of the Joint Chiefs of Staff and the unified commanders became the new joint norm
  - Decline in influence of both service staffs over operations
  - New unified Strategic Command (USSTRATCOM) created.
- Demise of Soviet Union & Soviet Navy shifted interest in both services toward shore target strike operations & capabilities, and forward presence; away from strategic deterrence, sea control & counter-sea ops & capabilities
- USN-USAF cooperation increased across the board; rivalry eased
  - Contentious issues still surfaced, however
1990s: USN-USAF Relationship: Bottom Lines

- 1991 Desert Storm experience a powerful wake-up call for the Navy
- Navy suddenly not pleased with itself, its strategy, its systems, & its operational performance
- Navy sought to improve throughout the decade, including closer cooperation – and integration – with joint -- and USAF -- policies & procedures
  - Closer integration into USAF Air Tasking Order (ATO)
  - USAF primary tanking source for Navy carrier aviation
  - USN assumed Electronic Warfare (EW) and Suppression of Enemy Air Defenses (SEAD) capabilities previously shared with USAF

1990s: Context for USN–USAF Relations

<table>
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<tr>
<th>World Events</th>
<th>Year</th>
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</table>
1990s: The U.S. Air Force (I)

- Drastic cuts
  - Fighter/attack inventory cuts
    - From 4200+ (1991) to 2500 (end of decade)
    - Continued transition to, increased reliance on Precision Guided Munitions (PGMs), stealth technology
  - New aircraft purchase cuts
    - USAF aircraft fleet age increase
  - F-4G *Wild Weasel* & EF-111A *Raven* electronic warfare (EW) aircraft retired
  - Space, C4ISR, mobility systems took increased share of USAF budget, at expense of combat aircraft

1990s: The U.S. Air Force (II)

- B-2 Spirit stealth bomber introduced (1993)
- Cruise missile reductions
  - ALCM numbers cut drastically; all GLCMs destroyed
- Increased USAF use of Unmanned Aerial Vehicles (UAVs)
  - RQ-1 *Predator* reconnaissance UAV introduced (1995)
1990s: The U.S. Air Force (III)

- SECDEF Cheney fired Chief of Staff of the Air Force (CSAF) Gen Dugan over public comments re: potential operations vs. Iraq (1990)

- Historic USAF internal reorganization (1992-3)
  - Strategic Air Command (SAC), Tactical Air Command (TAC), Military Airlift Command (MAC) inactivated
  - New Air Combat Command (ACC), Air Mobility Command (AMC) activated
  - SAC bombers to ACC
  - SAC Tankers to AMC
  - SAC ICBMs to Air Force Space Command

1990s: The U.S. Air Force (IV)

- National defense policy favored short-range TACAIR over long-range bombers
  - Assumed USAF TACAIR and USN carrier forward access & TACAIR forward basing
  - Assumed relatively small countries/areas as possible targets

- Heavy influence of TACAIR pilots within USAF

- Still no US Air Force officers assigned to command regional joint unified commands
1990s: The U.S. Air Force (V)

- USAF transformed its TACAIR deployment strategy
  - Forward-based theater garrisons reduced
  - 2/3 of USAF active personnel in Europe withdrawn
  - CONUS-based “Aerospace Expeditionary Forces” (AEFs) created to surge respond to contingencies, worldwide
    - AEF to Bahrain (1995)
    - 10 AEFs stood up (1999)
    - Conscious & publicly acknowledged emulation of Navy rotational forward deployment practices

1990s: The U.S. Air Force (VI)

- USAF intellectual institutions evolved
  - Air University CADRE organization continued
  - Air Force Doctrine Center (AFDC) created at Maxwell AFB, reporting to Chief of Staff of the Air Force (CSAF) (1996)
  - Changing Air Staff “Checkmate” division missions throughout the decade
    - Controversial influence on in-theater ops & high visibility during Gulf War (1990-1991)
    - Reversion to studies & analysis activities (after 1991)
    - Increased operational planning support to theater commanders (late 1990s)
1990s: The U.S. Air Force (VII)

- USAF airpower theory refinement
  - Air power seen as directly contributing to, and perhaps solely responsible for, achieving high-level strategic objectives in conventional war
  - Conventional air campaigns seen as preparatory to, not just integrated with, ground campaigns, & potentially decisive in themselves
  - Relationships between air & space hotly debated

1990s: USAF Capstone Publications (I)

- SECAF Rice, *Global Reach-Global Power* (1990)
  - Published before Operations Desert Shield/ Desert Storm
  - Top-down Pentagon-created guidance
  - Inspired in part by success of *The Maritime Strategy*

  - Drafted by Air University CADRE organization
  - Based more on actual historical experience than predecessors

1990s: USAF Capstone Publications (II)

  - Emphasized Air Campaigns & US Air Force strategic role in conventional war
  - Emphasis on space operations
  - Complex, Air Force-wide development process

1990s: U.S. Air Force Visions and Doctrine

- AFDD 2-1.4 *Countersea Operations* (1999)
1990s: U.S. Navy Capstone Documents

- Periodic mention of USAF contributions, capabilities, limitations or dependence on US naval power in USN capstone strategy, policy & concept documents of the decade
  - Especially . . . From the Sea (1992)

1990s: USN-USAF Staff Relationships

- Routine Navy & Air Force (NAVAF) Board mtgs
- USN-USAF conceptual issues
  - USN derided USAF concept of “virtual presence”
  - USAF decried Navy claims of autonomous at-sea operations, rapid response
- SECDEF designated USAF-dominated US Transportation Command as combatant commander & single-manager for all Defense Department transportation assets, in peace & war
  - Secretary of the Navy (SECNAV) no longer Defense Department single-manager for Sealift
1990s: USN-USA Operational Relationships

- Major integrated air operations by both services throughout the decade, especially over:
  - Iraq (Operations Desert Storm, Southern Watch, etc.)
  - The former Yugoslavia (Operations Deliberate Force, Allied Force, etc.)
- Increasing USN dependence on USAF E-3 Sentry AWACS support in Iraq (Operations Desert Storm, Southern Watch)
- Increasing USAF dependence on USN/USMC EA-6B Prowler support for electronic warfare
- Continued forward USN Military Sealift Command (MSC) prepositioning of USAF munitions

1990s: USN-USA Operational Relationships

- Converted T-AGOS ship USNS Invincible redesignated as missile range instrumentation ship (T-AGM-24). MSC to operate in continued support of USAF missile test data-gathering programs (Apr 2000)
- New York Air National Guard (ANG) 109th Airlift Wing took over Operation Deep Freeze US Antarctica scientific program military support mission from USN units (1996-1999)
  - USN Antarctic Development Squadron VX-6 decommissioned (1999)
  - USN MSC ships & cargo-handling battalion continued to provide sea-borne support
1990s: Exercise Relationships

- USN exercised joint air operations using Air Force-driven joint doctrine
  - Initial examples
    - Joint USCINCLANT exercise *Ocean Venture 92*
    - Joint USCINCPAC exercise *Tandem Trust 92*
  - Characteristics
    - Integrated Joint Forces Air Component Commander (JFACC) staffs
    - Joint Targeting Coordination Boards created
    - Improved communications between forces at sea and ashore
    - Other joint exercises (e.g., *Northern Edge*)
- USN developed, tested “JFACC afloat” & sea-based Joint Air Operations Center (JAOC) capabilities

1990s: Education and Training Relationships

- Increased joint USN-USAF education & training consolidation
- USN/USAF developed common primary trainer aircraft
  - T-6 *Texan II* Joint Primary Air Training System (JPATS)
  - Joint program; USAF as Executive Service
- USN/USAF consolidated Naval Flight Officer (NFO) & some USAF combat systems officer training at NAS Pensacola (from 1994)
  - Command of USN Training Squadron TEN (VT-10) alternated between USN & USAF (from 1997)
- Continued Navy-USAF pilot exchanges: Squadron & flight instructor duty & test pilot schools, war college exchanges
1990s: USN-USAF TACAIR Relationships (I)

- Operation *Desert Storm*: Navy surprised & chagrined to be (by CINC direction):
  - Directed by USAF-led Joint Forces Air Component Commander (JFACC), supported by a largely USAF staff
  - Subsumed within centralized USAF-designed joint Air Tasking Order (ATO), by CINC direction
- USN unfamiliar with JFACC, ATO processes, unable to link to USAF Computer-Assisted Force Management System (CAFMS)
- USN dependent on scarce USAF tanker refueling
- USAF tended to downplay capabilities of USN BGM-109 *Tomahawk* land-attack (TLAM) cruise missiles
- But Navy contributions real: Ops, intel, SEAD

1990s: USN-USAF TACAIR Relationships (II)

- Post-*Desert Storm*: Increasingly tight US naval aviation joint integration IAW USAF-led doctrine & tactics, techniques & procedures (TTP)
  - USN adapted rapidly to USAF-led doctrine & TTP, in wake of Operation *Desert Storm* (e.g., improved Air Tasking Order (ATO) processing, improved Combined Air Operations Center (CAOC) participation by Naval and Amphibious Liaison Elements (NALEs))
  - Operations *Northern Watch* & *Southern Watch* over Iraq acted as laboratories for increasing USN-USAF TTP cooperation & coordination
  - USN still critical of JFACC concept, concerned at rigidity of ATO in joint NATO strike operation *Deliberate Force* (strike ops vs. Bosnian Serbs)
- Increased USAF & USN strike precision
  - Navy capabilities came up to Air Force levels
1990s: Electronic Warfare Relationships (I)

- Success of (scarce) US Navy Suppression of Enemy Air Defenses (SEAD) platforms, weapons, & systems in support of all services during Desert Storm
  - Especially High-speed Anti-Radiation Missle (HARM) missile-shooting aircraft
  - But some in USAF criticized what they saw as profligate USN expenditure of HARM weapons, shooting without positive locks on enemy targets

1990s: Electronic Warfare Relationships (II)

- USN, USMC EA-6B Prowler became sole US military tactical airborne electronic attack capability
  - Deployment of USN expeditionary squadrons, detachments to/from land bases
    - Carrier-capable (including USAF crews)
  - USAF provided some crews to Navy squadrons (from 1997)
  - USAF saw reduced need for SEAD through EW, given stealth low-observable characteristics of F-117, B-2, F-22 & anticipated Joint Strike Fighter (JSF)
  - USAF F-4G Wild Weasel aircraft retired (by 1996)
  - USAF EF-111A Raven aircraft retired (by 1998)
1990s: Electronic Warfare Relationships (III)

- Non-stealthy USN F/A-18 Hornet aircraft required electronic warfare aircraft for suppression of enemy air defenses (SEAD)
  - Secretary of Defense (SECDEF) Cheney cancelled USN A-12 Avenger II stealthy attack aircraft development program (1991)

1990s: Aerial Refueling Relationships

- Increasing USN dependence on USAF
  - Short-legged USN F/A-18C/D force
  - Longer-legged USN F/A-18E/Fs under development; Long-legged USN F-14s scheduled to retire
  - Post-Cold War USAF tanker support emphasis shifted from SAC bombers to USAF TACAIR, other TACAIR
  - More USAF tankers modified to refuel USN TACAIR aircraft
  - USN organic carrier-based KA-6D Intruder tanker aircraft retired (by 1997)
    - Replaced by S-3B Vikings equipped with aerial refueling system (“buddy stores”)
  - Some continuing Navy TACAIR chagrin at having to be refueled by USAF
1990s: Strategic Nuclear Relationships (I)

- USN SSBN forces finally placed under operational command of a joint unified commander: USCINCSTRAT (1992)
- Reduced USAF focus on nuclear deterrence mission, forces
- USN nuclear deterrence focus unchanged

1990s: Strategic Nuclear Relationships (II)

- USN Strategic Communications Wing ONE & its land-based E-6A *Mercury* “TACAMO” SSBN communications aircraft relocated to Tinker AFB, OK (1992)
- Multi-role E-6B aircraft 1st deployed (1998)
1990s: Airlift Relationships

- Increasing USN dependence on USAF for long-haul airlift of critical parts, supplies, personnel
- Land-based intra-theater airlift issues
  - Commission on Roles & Missions (CORM) recommended reduction & assignment of most USN Operational Support Airlift (OSA) aircraft to USAF, to be managed by USTRANSCOM (1995)
  - USN sought to retain admin & operational authority over USN OSA aircraft, under USN fleet commanders
  - DEPSECDEF (former CORM chairman) transferred scheduling authority in CONUS for USN OSA aircraft to USCINCTRANS (1996)
  - Scheduling authority for overseas theater USN OSA transferred to geographical unified commanders (1996)
  - USN retained ADCON over OSA VR squadrons & aircraft

1990s: Space Relationships (I)

- Continued high USN use of USAF space systems
- Continued modest USN funding of space systems
- USN “leverage” strategy to influence USAF decisions
  - USN contributed enough resources to justify a role in decision-making
- USAF favored & Navy opposed designation of Space as a CINC Area of Responsibility (AOR) for USCINCSPACE
1990s: Space Relationships (II)

- USAF-led Global Positioning System (GPS) operational; joint use in *Desert Storm*
- USAF passed FLTSATCOM control to Navy
- Navy & USAF developing UHF Follow-On to replace FLTSATCOM
- National Reconnaissance Office (NRO) intel flow increased to all services, including Navy
  - NRO existence, mission declassified (1992)

1990s: USN-USAF Systems Relationships (I)

- Advanced Tactical Fighter (ATF) program
  - USAF continued development. Chose Lockheed prototype. Became F-22 *Raptor*
  - Navy terminated Navy Advanced Tactical Fighter (NATF) variant development due to weight, cost, complexity issues (1991)
- USAF-USN Joint Advanced Strike Technology (JAST) program (from 1993)
  - Eventually evolved into F-35 Joint Strike Fighter
- Atrophy of USAF capabilities to support maritime campaigns
  - *Harpoon* anti-ship missiles removed from B-52s (1989)
1990s: USN-USAF Systems Relationships (II)

- Navy developed, built up stocks of precision-guided munitions (PGMs)
  - Caught up to USAF
- Joint Navy-USAF development of weapons systems:
  - AGM-154 Joint Stand-off Weapon (JSOW-A)
  - AGM-158 Joint Air-to-Surface Standoff Missile (JASSM)
  - AIM-120 Advanced Medium Range Air-to-Air Missile (AMRAAM)
  - GBU-31/32/38 Joint Direct Action Munition (JDAM)
- USN deployed USAF-developed Low Altitude Navigation & Targeting Infrared for Night (LANTIRN) pod system on USN F-14s (1997)

1990s: USN-USAF Meteorological Relationships

  - To evaluate potential areas of cooperation, in the wake of Operation Desert Storm meteorological support issues
  - 19 initiatives identified for study, possible implementation
2000s: USN-USAF Relations

- USN & USAF achieved unprecedented levels of cooperation & integration
- Closer relations aided by
  - Navy acceptance that it can’t – and will not be tasked to -- do everything maritime and littoral by itself
  - USAF humility in the face of criticisms of its record across the decade, & recognition that it probably will never be tasked to win a war mostly by itself
  - USN-USAF convergence of interest re: future primary US warfighting concepts, especially viz-a-viz:
    - Current ground war priorities & Counter-Insurgency (COIN) concept focus, in the Middle East, pursued by U.S. Army, others
    - Emerging peer competitors, especially in the Pacific
  - Outside pressures, e.g., Base Realignment & Closure Commission (BRAC)
2000s: USN-USAF Relationship: Bottom Lines

- Commonality of USN & USAF experience supporting ongoing Southwest Asia ground-centric COIN ops helped forge commonality of outlook & interest
- Rise of China & People’s Liberation Army Navy (PLAN) – as well as continued development of Iranian capabilities – sparked renewed interest in both services in air defense, sea control, and counter-sea operations & capabilities
- Decade ended with development of a classified USN-USAF “Air-Sea Battle concept”
  - Directed by SECDEF
  - Staffed & approved by service staffs
- Evolving world situation put a premium on USN-USAF counters to others’ Anti-Access/ Area Denial (A2AD) capabilities

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2000s: Context for USN–USAF Relations

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<th>World Events</th>
<th>Year</th>
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## 2000s: Popular views: Service importance

### American people attitudes*

*Gallup polls (2001-2010)

“Which is most important to our national defense today?”

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## 2000s: Popular views: Service prestige

### American people attitudes*

*Gallup polls (2001-10)

“Which is the most prestigious & has the most status in our society today?”

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<tr>
<td>2010</td>
<td>8</td>
<td>27</td>
<td>55</td>
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</table>
2000s: The U.S. Air Force (I)

- Continued decline in USAF aircraft inventories
  - From 2500 at beginning of decade to 2000 at end of decade
  - Less than 100 long-range bombers at end of decade
- F-22 Raptor fighter introduced (2005)
  - F-117 Nighthawk stealth fighter retired (2008)
- Few new USAF purchases
  - USAF fleet age increased; F-22 buy ended (2009)
  - No new bomber produced since 1997
  - Replacement tanker aircraft acquisition difficulties, scandals & delays
- USAF forward TACAIR bases in Central Asia
  - Karshi-Khanabad, Uzbekistan (2001-5); Manas, Kyrgyzstan (2001- )

2000s: The US Air Force (II)

- USAF continued to seek airpower solutions to national defense problems
  - Public push-back from USAF Generals Dunlap, Deptula, other USAF thinkers vs. Army-USMC-led COIN doctrine, seen as
    - Too ground-centric, downplaying important COIN contributions of airpower
    - Irrelevant to emerging peer competitor challenges
- Greatly increased USAF use of Unmanned Aerial Vehicles (UAVs)
  - RQ-4 Global Hawk surveillance UAV deployed
  - MQ-1 Predator armed UAV deployed
  - MQ-9 Reaper armed UAV deployed
  - 1st USAF UAV wing activated (2007)
2000s: The U.S. Air Force (III)

- Continued heavy influence of TACAIR pilots within USAF leadership
  - Gen Norton Schwartz was 1st airlifter to become CSAF (2008)
- Institutionalization within joint thinking of USAF-originated Effects Based Operations (EBO) concepts
  - Many USN commanders bought into the concept
  - Elicited push-back, however, from USMC commanders
- USAF generals finally assigned to command overseas regional joint unified commands
  - Gen Ralston (CDRUSEUCOM, 2000-2003)
  - Gen Fraser (CDRUSSOUTHCOM, from 2009)

2000s: The U.S. Air Force (V)

- USAF intellectual institutions evolved
  - Air Force Doctrine Center (AFDC) & Air University College for Aerospace Doctrine, Research and Education (CADRE) merged into Air University LeMay Center for Doctrine Development & Education (2007)
  - Air University Air Force Research Institute (AFRI) established (2008)
  - CSAF Gen Moseley redirected Air Staff “Checkmate” Division to focus on providing him with alternative analyses
  - CSAF Gen Schwartz re-directed “Checkmate” to integrate strategy & operational planning expertise to support USAF component commanders (2009)
### 2000s: USAF Capstone Documents (I)

  - USAF strategy for next 2 decades
  - Continued “global vigilance, reach & power” theme
2000s: USAF Capstone Documents (III)

- Also:

2000s: U.S. Air Force Maritime Doctrine, TTP

- Published by
  - Commander Navy Warfare Development Command (NWDC)
  - Commander, (USAF) Curtis E. Lemay Center for Doctrine Development & Education
2000s: U.S. Navy Capstone Documents

- Only brief mention of USAF contributions, capabilities, limitations, or dependence on US naval power in most USN capstone strategy, policy & concept documents of the decade
  - But USAF capabilities very well-integrated into Naval Operating Concept for Joint Operations (NOCJO) (2006)

2000s: USN-USAF Staff Relationships (I)

- Counter-insurgency ground wars in Afghanistan and Iraq (2001-2010 and beyond), were dominated by U.S. Army & U.S. Marine Corps ground & air support forces.
  - Navy & Air Force found common ground in need to develop & achieve acceptance of:
    - Roles for Navy & Air Force aviation in counter-insurgency (COIN) doctrine & operations
    - Continuing need for a robust modernized strategic nuclear force
2000s: USN-USAF Staff Relationships (II)

- Emerging anti-access capabilities abroad led to measures to improve the viability of USAF TACAIR & carrier aviation
- New look at virtues of USAF long-range bombers
- Multi-service agreement on command relationships for forward Navy Aegis BMD ships (2010)

2000s: USN-USAF Staff Relationships (III)

- SECDEF suggested “100-Wing Air Force” to complement “1000-Ship Navy” (2009)
- Formal annual USN-USAF Warfighter Talks program ongoing (from c.2000)
- CNO ADM Vern Clark created Naval Operations Group (OPNAV Deep Blue) based in part on his perceptions of USAF Air Staff “Checkmate” Division roles (2001)
- Close OPNAV Deep Blue - Air Staff Checkmate relations in early, mid-decade
2000s: USN-USAF Staff Relationships (IV)

- Retired US Navy captain James Roche served as Secretary of the Air Force (2001-2005)
- Retired USAF general H.T. Johnson served as Assistant Secretary of the Navy, Acting Secretary of the Navy (2001-5)
- DoD, Aircraft Investment Plan: Fiscal Years (FY) 2011-2040 (Feb 2010)
  - 1st DoD submission of a department-wide long-range fixed-wing aviation procurement plan
  - USN, USAF, USMC aircraft

2000s: USN-USAF Staff Relationships (V)

- “Air-Sea Battle” concept development (2009-11)
  - To address common anti-access/area denial challenges
  - Incubated by Office of the Secretary of Defense (Net Assessment) (OSD(NA)) & non-profit Center for Strategic & Budgetary Assessments (CSBA) think tank (staffed in part by OSD/NA alumni)
  - SECDEF Gates tasker to SECNAV & SECAF
  - Joint USN-USAF working group formed
  - CNO & CSAF approved way ahead (May 2010)
  - Initial classified documentation (2011)
  - No UNCLASS official discussion of substantive contents available (as of Feb 2011)
  - Much press, international speculation
  - Earlier CSBA reports much discussed
### 2000s: USN-USAF Staff Relationships (VI)

- **USN-USAF staff discussion issues (2009-10)**
  - Stealth & SEAD
  - UAV development, operational responsibilities, & support
    - USAF sought DOD executive agency to rationalize DOD UAV acquisition & ops
    - Both services sought synergies, cost savings, duplication avoidance
  - Intra-theater lift responsibilities
  - Cyberwar responsibilities
  - Nuclear weapons command & control
  - Integrated air & missile defense
  - Base Realignment & Closure Commission (BRAC) mandated joint bases
  - Air-Sea Battle concept
  - Joint Strike Fighter (F-35) development
  - Forward air base & air station infrastructure resiliency & survivability

### 2000s: USN-USAF Operational Relationships

- Continued integration of USN & USAF strike operations, utilizing JFACC & ATO concepts
  - Joint Operations *Enduring Freedom* (OEF) & *Iraqi Freedom* (OIF) achieved real USN-USAF synergies
    - Full USN integration in Combined Air Operations Center (CAOC)
      - E.g.: OEF JFACC was USAF Lt Gen; Deputy JFACC was USN RADM
    - More robust Naval and Amphibious Liaison Elements (NALEs)
2000s: USN-USAF Operational Relationships

- USN continued to develop & test “JFACC afloat” & sea-based Joint Air Operations Center (JAOC) capabilities
  - Joint Pub 3-30 Command and Control for Joint Air Operations (Jan 2010): “The JFACC may be sea-based”

- USAF B-52 Stratofortress, B-1B Lancer and B-2A Spirit strategic bombers comprised nation’s only high-volume sea mining capability
  - Modest USN P-3C Orion & F/A18 Hornet/Super Hornet airborne sea mine delivery capability
  - No USN surface mine-laying capability
  - USN phasing out submarine-launched mobile mines (SLMM) (by 2012)

- Navy temporarily assumed USAF OEF missions when USAF F-15 Eagles grounded (2007)

- USAF units embarked on Navy High Speed Vessel Swift (HSV 2) during USSOUTHCOM Southern Partnership Station ops in Caribbean

- US Navy rescue and salvage ship USNS Grasp (T-ARS 51) recovered two USAF F-15C Eagle fighters from Gulf of Mexico (2008)
2000s: USN-USAF Operational Relationships

- Navy P-3C use of USAF-run Forward Operating Location (FOL) at Manta, Ecuador
  - Until 2009
- USAF support for USN Ballistic Missile Defense (BMD) system satellite shoot-down (2008)
  - USAF provided satellite tracking data to USN shooters
- Continued Navy dependence on USAF for E-3 Sentry AWACS aircraft support
- Continued USN Military Sealift Command (MSC) afloat forward prepositioning of USAF munitions

2000s: Exercise and Training Relationships (I)

- Increased joint USN-USAF exercises, e.g.,
  - Resultant Fury 05 (2004)
    - USN F/A-18s, USAF B-52H with laser guided weapons destroyed targets at sea in the Pacific Ocean. USAF B-52 sank decommissioned USN LST
    - Supported by USAF E-8C JSTARS aircraft
  - RIMPAC 2010 (Jul 2010)
    - USAF B-52 GBU-10 precision guided munitions, USN & allied missiles & gunnery sank decommissioned USN LPH
  - Invincible Spirit (Jul 2010)
    - Off Korea, after Korean warship sinking
    - USN CVN/CVW, USAF F-22s
2000s: Exercise and Training Relationships (II)

- Other joint USN-USAF exercises, e.g.,
  - Valiant Shield
  - Vigilant Shield (2010)
    - USNORTHCOM/NORAD
    - Including 1st Air Forces Northern (AFNORTH) Naval Liaison Element (NALE)
  - US Northern Command Northern Edge exercises
  - USAF Special Tactics Squadron (STS) exercised rescue ops from ballistic missile submarine USS Alabama (SSBN-731), acting as surrogate cruise missile submarine (SSGN) (2005)
- Continued Navy-USAF pilot exchanges:
  Squadron & flight instructor duty & test pilot schools, war college exchanges

2000s: Exercise and Training Relationships (III)

- Increased information, personnel & aircraft exchanges between Naval Strike and Air Warfare Center (NSAWC) Naval Air Station (Fallon NV) & Air Force Weapons School (Nellis AFB NV)
- Continued joint USN-USAF education & training consolidation
  - Eglin AFB Florida ranges replaced NAS Roosevelt Roads & Vieques for USN strike training
  - Base Realignment & Closure Commission (BRAC) 2005 report mandated Joint Strike Fighter (F-35) integrated training center be established at Eglin AFB
- But USN VT-4 deactivated at Pensacola (2010)
  - USAF stood up new 479th Flying Training Group at Pensacola to conduct its own officer training
2000s: USAF Maritime Exercise

  - 3-plane B-52 flight surveillance exercise over North Atlantic, targeting USNS Maritime Prepositioning Ship (MPS)
  - Major USAF public affairs campaign
  - Deliberately reminiscent of US Army Air Corps 3-plane B-17 flight surveillance exercise in North Atlantic targeting Italian liner *Rex* (1938)
- Viewed in US Navy (and by some others) as a parochial public relations stunt
- Viewed by many in USAF as a way to revive USAF counter-sea warfare capabilities, to find & attack ships at sea

2000s: USN-USAF TACAIR Relationships

- Generally smooth USN-USAF tactical air operational cooperation & coordination throughout the decade
  - Operation *Enduring Freedom* (OEF) over Afghanistan (from 2001)
  - Operation *Iraqi Freedom* (OIF) over Iraq (from 2003)
2000s: Electronic Warfare Relationships (I)

- USN, USMC EA-6B *Prowler* continued as sole US national tactical electronic attack capability
  - Supported Air Expeditionary Forces (AEFs) as well as USN, USMC units
  - USAF continued to provide some crews
- USN transitioning from EA-6B *Prowler* to EA-18G *Growler* EW aircraft

2000s: Electronic Warfare Relationships (II)

  - USAF of 2010-20 will not be as stealthy as USAF planners envisioned in early 1990s
  - Composition: ½ USAF; ½ USN-USMC
  - Command to rotate among USAF, USN, USMC
2000s: Strategic Nuclear Relationships

- SECDEF Gates criticized USAF leaders re: serious nuclear systems security lapses (2008)
  - CONUS, Taiwan weapons/components incidents
  - SECAF, CSAF fired
- SECDEF appointed USN ADM Donald to investigate USAF nuclear weapons security lapses (2008)
- USAF activated Global Strike Command (2009)
  - Strategic Air Command (SAC) with a new name
  - Re-united USAF bomber & ICBM forces in one nuclear-weapons-focused command

2000s: Airlift Relationships

- Modernization of USN Operational Support Aircraft (OSA) fleet
  - Introduction of C-40A (modified Boeing 737) (2001)
  - USAF bought similar aircraft (C-40B, C-40C)
- Continued USN dependence on USAF for
  - Long-haul airlift support of critical parts, supplies, personnel
- Continued CDR USTRANSCOM integration of sealift & airlift
  - E.g., US Army Stryker Brigade gear sealifted from Tacoma to Diego Garcia, then airlifted to Afghanistan (2009)
2000s: Aerial Refueling Relationships

- Continued USN carrier aviation dependence on USAF tankers
  - Short-legged USN F/A-18C/D Hornet force
  - Longer-legged USN F/A-18E/F Super Hornets with aerial refueling system (ARS) (“buddy stores”) tanker capability introduced (from 2001)
  - Long-legged USN F-14 Tomcats retired (by 2006)
  - Extended ranges of OEF & OIF targets
  - USN S-3B Viking with tanker capability retired (by 2009)

- Continued disgruntlement by some naval aviators at dependence on USAF tanking

2000s: Space Relationships

- Continued high USN use of USAF space systems
  - Continued modest USN funding of space systems
  - SECDEF Rumsfeld designated USAF as DOD executive agent for space issues (2001)
    - Space policy & procurement authority to OSD (2007)
  - USN procurement agent for narrowband satellites
    - USN responsible for UHF/FO SATCOM system control & development of next-generation UHF Mobile User Objective System (MUOS) program
  - On DOD direction, USN turned over operation of aging ground-based space surveillance system (NAVSPASUR) “space fence” & Alternate Space Control Center (ASCC) to USAF (2004)
2000s: USN-USAF Systems Relationships (I)

- USN & USAF phased in jointly-developed T-6B Texan II as common primary trainer aircraft
- Cobra Judy Replacement (CJR) ballistic missile-tracking radar program transferred from USAF to USN (2002)
- New USN missile range instrumentation ship USNS Howard O. Lorenzen (T-AGM 23) christened. MSC to operate as CJR radar platform to support USAF missile tracking programs (Jun 2010)

2000s: USN-USAF Systems Relationships (II)

- USN Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) program derived from USAF RQ-4 unmanned ISR Global Hawk aircraft
  - USN chose USAF-developed Global Hawk as BAMS UAS (2008)
  - CNO-CSAF MOA maximizing commonalities, interoperability, joint efficiencies (Jun 2010)
  - USN, USAF to buy common ground control stations
  - USAF Global Hawk first flew in 1998
  - USN BAMS UAS to operate in 2015
- USAF support of Navy Unmanned Carrier-Based Surveillance & Strike System (UCLASS) program
- Plans for Navy to transfer 4 MQ-9 Reaper “Saber Focus” UAVs to USAF in 2011 (2010)
2000s: USN-USAF Systems Relationships (III)

- USN, USAF, USMC continued co-development of F-35 Joint Strike Fighter (JSF) variants
  - SECDEF Gates replaced USMC Maj Gen Program Executive Officer (PEO) with USN VADM, to restructure joint program due to troubled performance record (2010)
  - Joint GBU Laser-Guided Bomb (LGB) development; USAF lead
  - Joint Precision Approach and Landing System (JPALS) development; Navy lead
  - USN, USAF merged Joint Tactical Radio System (JTRS) procurement programs

2000s: USN-USAF Systems Relationships (IV)

- USN-USAF Service Life Extension Program (SLEP) modifications on Navy E-6B Mercury “TACAMO” strategic command & control aircraft (2010)
- Low-level USN & USAF interest in long-range conventional ballistic missile development (for “prompt global strike”)
  - Congress refused to fund Navy program; mandated joint (largely USAF-US Army) program (2008)
2000s: USN-USAF Systems Relationships (V)

- USN-USAF discussions re: light-attack Irregular Warfare aircraft programs cooperation (2009-10)
- But
  - USN did not buy USAF AGM-158 Joint Air-to-Surface Standoff Missile (JASSM); preferred the Stand-off Land Attack Missile –Extended Response (SLAM-ER)
  - USAF did not buy USN AGM-154B Joint Standoff Weapon (JSOW-B); whereupon USN terminated the program
  - Joint USN-USAF Unmanned Combat Aircraft System (J-UCAS) development ended; became Navy program (N-UCAS) (2006)

2000s: USN-USAF Basing Relationships

- Base Realignment & Closure Commission (BRAC) mandated joint bases
  - Managed by USN
    - Naval Station (NAVSTA) Pearl & Hickham Air Force Base (AFB)
    - Naval Base Guam & Andersen AFB
    - Naval Annex Anacostia & Bolling AFB
  - Managed by USAF
    - Naval Air Facility (NAF) Washington & Andrews AFB
    - Naval Weapons Station (NAVWPNSTA) CHASN & Charleston AFB
    - Naval Air Engineering Station (NAES) Lakehurst & McGuire AFB
  - Services are making this happen, but the path isn’t always smooth
What has Driven the Relationship?

Drivers: Toward Cooperation . . . or Rivalry

- Cooperation has its benefits
- So does competition
- Why have the services cooperated? Why have they not?
- Analyzing the data yields many drivers
- Competition and rivalry occur when their drivers are more prominent
- The same is true for integration and cooperation
- From the record presented, these drivers can be identified . . .
The Drivers: Patterns in the Data

- Four categories of drivers
  - Conceptual & operational
  - Organizational
  - Material
  - Personal

- Each category includes drivers toward:
  - Cooperation & integration
  - Competition & rivalry

Drivers Toward Cooperation and Integration (I)

- Conceptual & operational
  - Recognized need to fight common enemies
  - Nature of perceived enemies, target sets
  - Need to meet common emerging challenges
  - Specific operational requirements
  - Need to use systems developed by each other
  - Common American cultural traits of “can do” & cooperation to get the job done

- Organizational
  - Higher authority & congressional direction
  - Integrating institutions
  - Routine mutual exposure to each other
  - Recognition that jointness looks good, & inter-service rivalry doesn’t sell well in most external venues
Drivers Toward Cooperation and Integration (II)

- **Material**
  - Rising overall defense budgets
  - Stability of service budget shares
  - Imposed ceilings on service budgets

- **Personal**
  - Cooperative individual personalities

---

Drivers Toward Competition and Rivalry (I)

- **Conceptual and operational**
  - Differing conceptions of appropriate national security policy & strategy priorities, rooted in service operating environment characteristics, responsibilities & experiences
  - Differing global geographic priorities, based on different regional geographic characteristics
  - Nature of potential enemies: Appropriate, available targets
  - Competition for participation – even dominance – in the most salient national defense missions
  - Pride in service accomplishments & zeal to build on them – unrestrained -- for the future
  - Differing operational doctrine; tactics, techniques & procedures, & systems, rooted in operating environments
  - Legacy thinking: Competition & rivalry seen as integral to service culture
  - Common American cultural trait of competitiveness
  - Disingenuousness and hidden agendas
Drivers Toward Competition and Rivalry (II)

- Organizational
  - Desire for administrative & operational control
  - Fears of mismanagement of forces by non-specialists
  - Organizational preservation & enhancement imperatives
  - Separate & autonomous organizational structures
  - Weak integrating institutions
  - Pressures from sister services & others to maintain the competition
  - Competition for scarce key joint service billet leadership assignments

Drivers Toward Competition and Rivalry (III)

- Material
  - Real or perceived competition for scarce US defense resources

- Personal
  - Competitive personalities – especially leaders -- & inflammatory language
The USN-USAF relationship is multi-faceted & complex

There has been much more to it than fighting in Washington over budget share & USAF control of USN aviation

This effort tries to lay out many of the facets and untangle many of the complexities

To provide context & perspective for contemporary decision-makers, their staffs, & students & analysts of naval & military affairs

To encourage more detailed further examination & analyses by others
Selected Bibliography


*See also inside back cover*
Selected Bibliography (II)


Selected Bibliography (III)

Selected Bibliography (IV)

♦ CAPT (Ret) Robert Rubel, “The U.S. Navy’s Transition to Jets” (Naval War College Review, Spring 2010)
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♦ CAPT (Ret) Jan van Tol et al., AirSea Battle: A Point-of-Departure Operational Concept (CSBA, 2010)
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Glossary (continued)

- AMC  Air Mobility Command
- AMRAAM  Advanced Medium-Range Air-to-Air Missile
- ANG  Air National Guard
- AOR  Area of Responsibility
- ARSAG  Aerial Refueling Systems Advisory Group
- ASCC  Alternate Space Control Center
- ASUW  Anti-surface warfare
- ASW  Anti-submarine warfare
- ATA  Advanced Tactical Aircraft
- ATF  Advanced Tactical Fighter
- ATO  Air Tasking Order
- AWACS  Airborne Warning and Control System
- BAMS  Broad Area Maritime Surveillance
- BMD  Ballistic Missile Defense
- BRAC  Base realignment and closure
- C2ISR  Command, Control, Intelligence, Surveillance & Reconnaissance
- CADRE  Center for Aerospace Doctrine, Research & Education

Glossary (continued)

- CAFMS  Computer Assisted Force Management System
- CAOC  Combined Air Operations Center
- CAP  Combat Air Patrol
- CDR  Commander
- CDRUSEUCOM  Commander, U.S. European Command
- CDRUSSOUTHCOM  Commander, U.S. Southern Command
- CHNAVRES  Chief of Naval Reserve
- CINC  Commander-in-Chief
- CJR  Cobra Judy replacement
- CNA  Center for Naval Analyses
- CNO  Chief of Naval Operations
- CONAD  Continental Air Defense Command
- CONMAROPS  Concept of Maritime Operations
- CONUS  Continental United States
- CORM  Commission on Roles and Missions
- CSAF  Chief of Staff of the Air Force
- CSBA  Center for Strategic and Budgetary Assessments
- DEPSECDEF  Deputy Secretary of Defense
### Glossary (continued)

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<tr>
<td>DHS</td>
<td>Department of Homeland Security</td>
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<td>DOD</td>
<td>Department of Defense</td>
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<td>DOT</td>
<td>Department of Transportation</td>
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<td>DPRK</td>
<td>Democratic People’s Republic of Korea</td>
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<td>DSP</td>
<td>Defense Support Program</td>
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<td>EBO</td>
<td>Effects based operations</td>
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<td>ELINT</td>
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<td>ETC</td>
<td>Estimated Time of Completion</td>
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<td>FLTSATCOM</td>
<td>Fleet Satellite Communications System</td>
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<td>Forward Operating Location</td>
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<td>Fire Support Coordination Line</td>
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<td>Guidance for Development of the Force</td>
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<td>GLCM</td>
<td>Ground-launched cruise missile</td>
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<td>GPS</td>
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<td>Galactic Radiation &amp; Background</td>
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<td>GSCPSU</td>
<td>General Secretary of the Communist Party of the</td>
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<td>Soviet Union</td>
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<td>HARM</td>
<td>High-speed Anti-Radiation Missile</td>
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<td>HOA</td>
<td>Horn of Africa</td>
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<td>ICBM</td>
<td>Inter-continental ballistic missile</td>
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<td>INCSEA</td>
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<td>JASDF</td>
<td>Japanese Air Self Defense Force</td>
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<td>Joint Air-to-Surface Standoff Missile</td>
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<td>JAST</td>
<td>Joint advanced strike technology</td>
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<td>Joint Forces Air Component Commander</td>
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<tr>
<td>JPALS</td>
<td>Joint Precision Approach &amp; Landing System</td>
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<td>JPATS</td>
<td>Joint Primary Air Training System</td>
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Glossary (continued)

- JSF Joint strike fighter
- JSOW Joint stand-off weapon
- JSTPS Joint Strategic Target Planning Staff
- JTF Joint Task Force
- JTRS Joint Tactical Radio System
- LANTCOM Atlantic Command
- LANTIRN Low Altitude Navigation & Targeting Infrared for Night
- LGB Laser-Guided Bomb
- MATS Military Air Transport Service
- MCM Mine Countermeasures
- MOA Memorandum of Agreement
- MOU Memorandum of Understanding
- MPS Maritime Prepositioning Ship
- MSC Military Sealift Command
- MUOS Mobile User Objective System
- NA Net Assessment
- NAES Naval Air Engineering Station
- NAF Naval Air Facility
- NALE Naval Liaison Element
- NAS Naval Air Station
- NATF Navy Advanced Tactical Fighter
- NATS Naval Air Transport Service
- NAVAF Navy-Air Force
- NAVELEX Naval Electronic Systems Command
- NAVSPACECOM Naval Space Command
- NAVSPASUR Naval Space Surveillance System
- NAVSTA Naval Station
- NAVWPNSTA Naval Weapons Station
- NCA National Command Authorities
- NDP Naval Doctrine Publication
- NFO Naval Flight Officer
- NATO North Atlantic Treaty Organization
- NOCJO Naval Operating Concept for Joint Operations
- NORAD North American Aerospace Defense Command

Glossary (continued)
### Glossary (continued)

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<td>Treaty on the Non-Proliferation of Nuclear Weapons</td>
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<td>Naval Research Laboratory</td>
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<td>Naval Strike and Air Warfare Center</td>
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<td>Near Term Prepositioning Force</td>
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<td>Operational Support Aircraft</td>
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<td>Pacific Command</td>
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<td>Precision-guided munitions</td>
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<td>People’s Liberation Army Navy</td>
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<td>Pacific Missile Range Facility</td>
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<td>President</td>
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<td>Proliferation Security Initiative</td>
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<td>SAC</td>
<td>Strategic Air Command</td>
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<tr>
<td>SAR</td>
<td>Search and Rescue</td>
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<tr>
<td>SEAD</td>
<td>Suppression of Enemy Air Defenses</td>
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<tr>
<td>SECAF</td>
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<tr>
<td>SIOP</td>
<td>Single Integrated Operational Plan</td>
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<tr>
<td>SLAM-ER</td>
<td>Standoff land-attack missile – expanded response</td>
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<tr>
<td>SLBM</td>
<td>Submarine-launched ballistic missile</td>
</tr>
<tr>
<td>Acronym</td>
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<tr>
<td>SLEP</td>
<td>Service Life Extension Program</td>
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<tr>
<td>SLMM</td>
<td>Submarine-launched mobile mine</td>
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<tr>
<td>SPAWAR</td>
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<tr>
<td>SSBN</td>
<td>Nuclear-powered ballistic missile submarine</td>
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<tr>
<td>SSN</td>
<td>Nuclear-powered submarine</td>
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<td>TAC</td>
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<tr>
<td>TACAIR</td>
<td>Tactical air, tactical aircraft</td>
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<td>T-AGOS</td>
<td>Ocean surveillance ship</td>
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<td>TLAM</td>
<td>Tomahawk land attack missile</td>
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<tr>
<td>TOA</td>
<td>Total Obligational Authority</td>
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<tr>
<td>TTP</td>
<td>Tactics, techniques &amp; procedures</td>
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<tr>
<td>UAS</td>
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<td>Ultra high frequency</td>
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<td>WESTPAC</td>
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Related CNA studies


Related Naval War College studies


CNA studies on U.S. Navy strategies and their context


