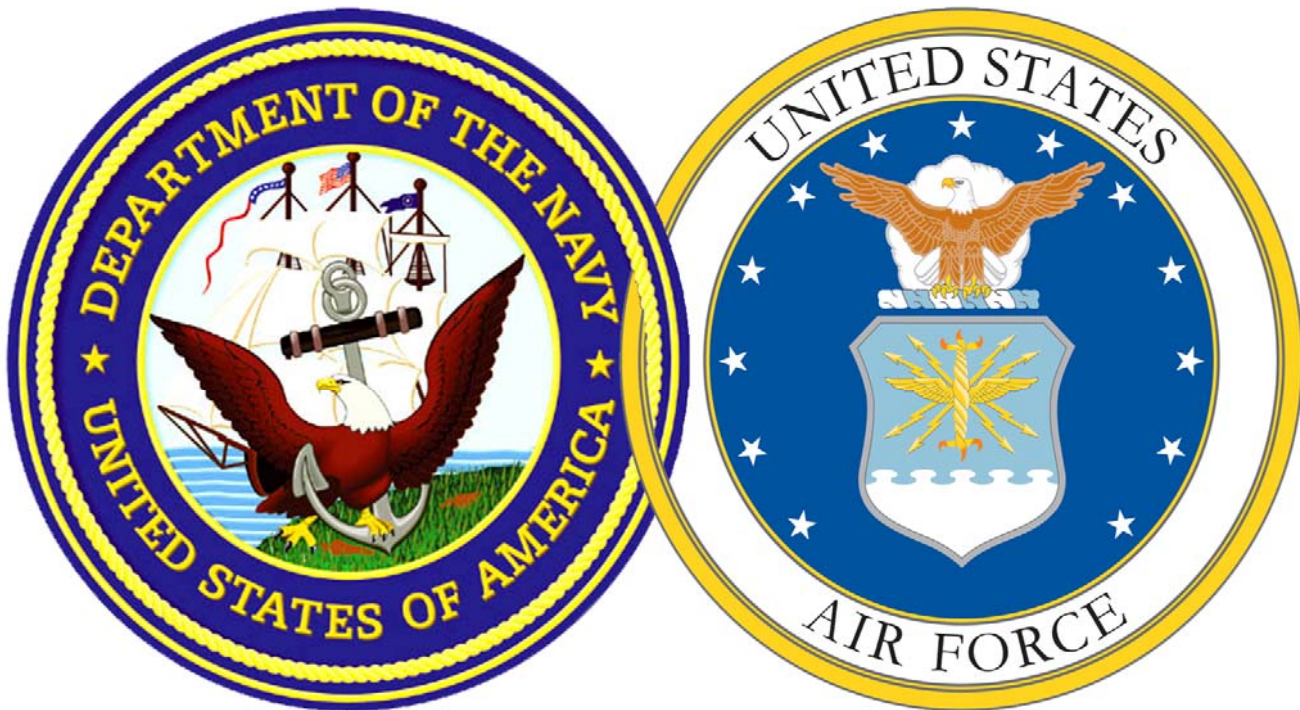


U.S. Navy – U.S. Air Force Relationships

1970-2010

Peter M. Swartz
With Karin Duggan



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June 2011



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Table of Contents

- ◆ Introduction & summary 1
- ◆ Pre-1970s deep legacy 5
- ◆ 1970s-2000s: Service comparisons . . . 23
- ◆ 1970s 25
- ◆ 1980s 37
- ◆ 1990s 51
- ◆ 2000s 69
- ◆ What has driven the relationship? 91
- ◆ Concluding observations 95
- ◆ Selected bibliography 96
- ◆ Glossary 99

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)

CNA

- ◆ 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

3

Summary (II)

CNA

- ◆ 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

4

Summary: What has Driven the Relationship?

CNA

- ◆ 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 . . .

5

Summary: What has Driven the Relationship?

CNA

- ◆ 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

6

Study Approach

CNA

- ◆ Adapted & greatly expanded data & analyses originally in support of earlier CNA study *US Navy Capstone Strategies & Concepts: 1970-2009* (2009)
- ◆ 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

7

Caveats

CNA

- ◆ 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

8



- ◆ 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

11

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

12

The Legacy: Central USN-AAF Policy Issues

CNA

- ◆ 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**

The Legacy: Central USN-AAF Policy Issues

CNA

- ◆ 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

CNA

- ◆ 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

15

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

CNA

- ◆ 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

16

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

CNA

- ◆ 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

CNA

- ◆ 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)

CNA

- ◆ 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.

19

The Legacy: Interwar Milestones (II)

CNA

- ◆ 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

20

The Legacy: Interwar Milestones (III)

CNA

- ◆ 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
- ◆ 1933: 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

21

The Legacy: Interwar Milestones (IV)

CNA

- ◆ 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

22

The Legacy: World War II (1941-3) (I)

CNA

- ◆ 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)

CNA

- ◆ 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)

CNA

- ◆ 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)

CNA

- ◆ 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

26

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

CNA

- ◆ 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
 - ◆ **Weaponers (“Bomb Commanders”) on USAAF B-29s vs. Hiroshima & Nagasaki were US Navy officers**

27

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

CNA

- ◆ 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

28

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

CNA

- ◆ 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

29

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

CNA

- ◆ 1944-1947: Intense inter-service disagreements regarding unification of US armed forces & creation of an independent US Air Force
 - ◆ 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)

CNA

- ◆ 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)

CNA

- ◆ 1947: National Security Act: New Secretary of Defense (SECDEF) over 3 military departments (Army, Navy, newly independent co-equal Air Force)
- ◆ 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

32

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

CNA

- ◆ 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

33

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

CNA

- ◆ 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

34

The Legacy: Milestones (Korean War)

CNA

- ◆ 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

35

The Legacy: Milestones (1950s) (I)

CNA

- ◆ 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

36

The Legacy: Milestones (1950s) (II)

CNA

- ◆ 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)

CNA

- ◆ 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

38

The Legacy: Milestones (1950s) (IV)

CNA

- ◆ 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

39

The Legacy: Milestones (1960s) (I)

CNA

- ◆ 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

40

The Legacy: Milestones (1960) (II)

CNA

- ◆ 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)

CNA

- ◆ 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)

CNA

- ◆ 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)

CNA

- ◆ 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

CNA



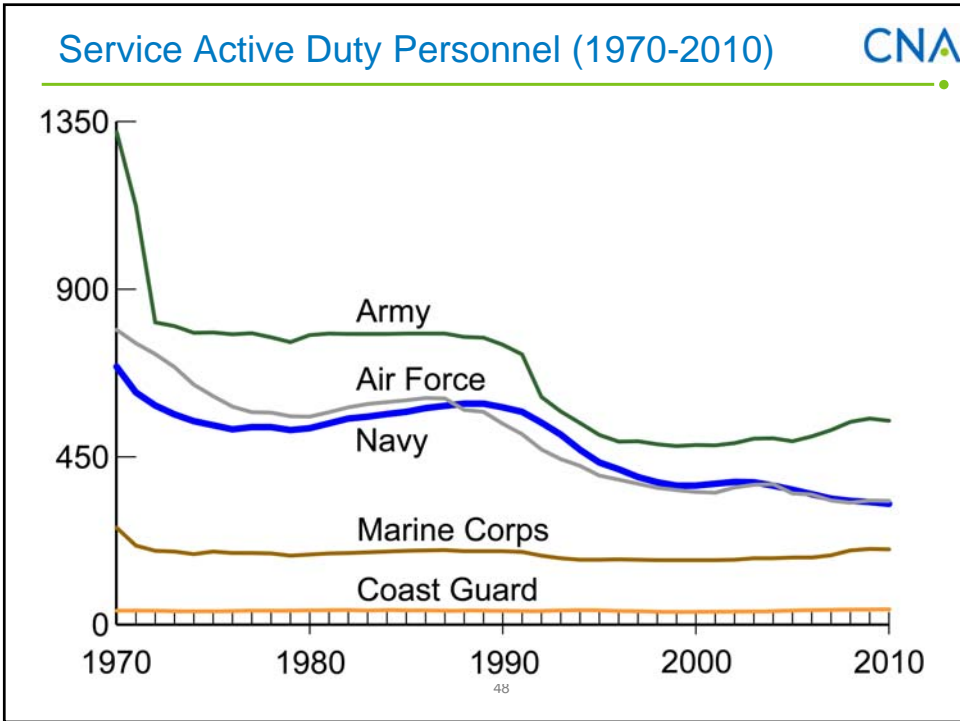
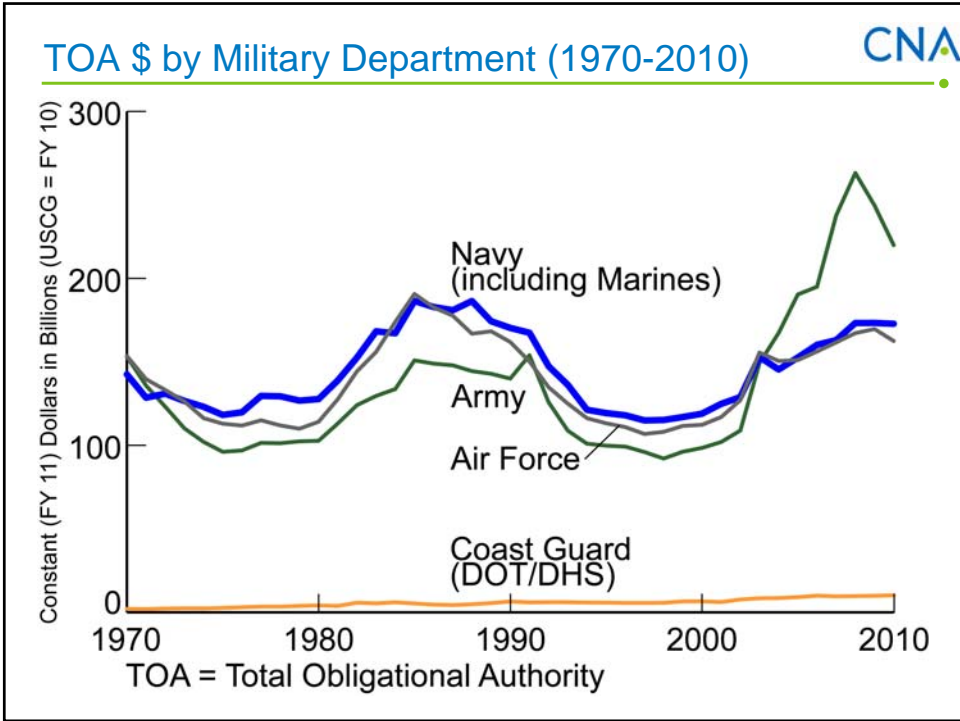
45

Service Comparisons Over Time (1970-2010)

CNA

- ◆ 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

46



1970s: USN-USAF Relations

CNA



49

1970s: USN-USAF Relationship: Bottom Lines

CNA

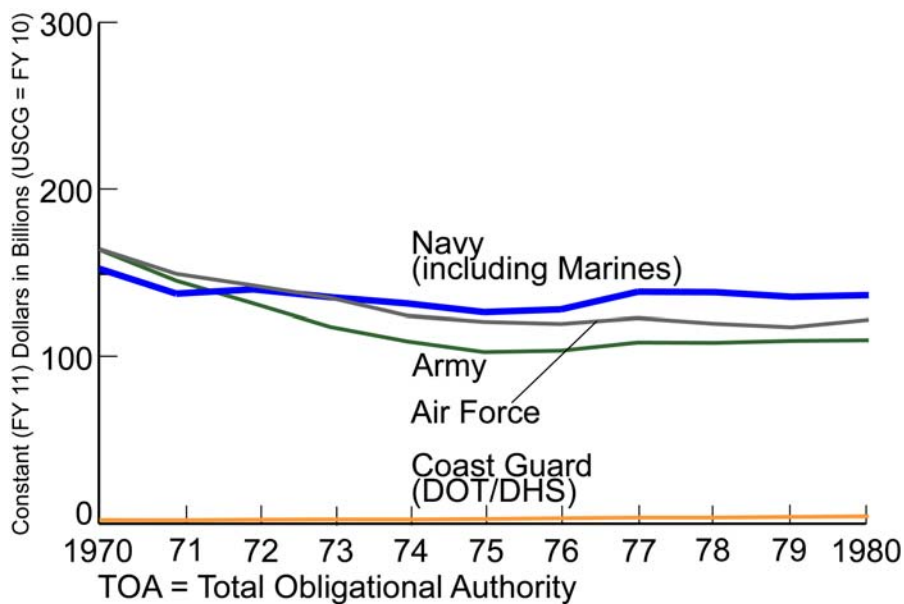
- ◆ Both cooperation & rivalry persisted
- ◆ Continued Navy resistance to subordination to USAF operational commanders
- ◆ Rise of Soviet Navy led to renewed USAF interest in counter-sea ops & cooperation with USN, & increased USN acceptance of USAF roles
- ◆ Internal budgetary pressures & outside stimuli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

50

1970s: Context for USN–USAF Relations

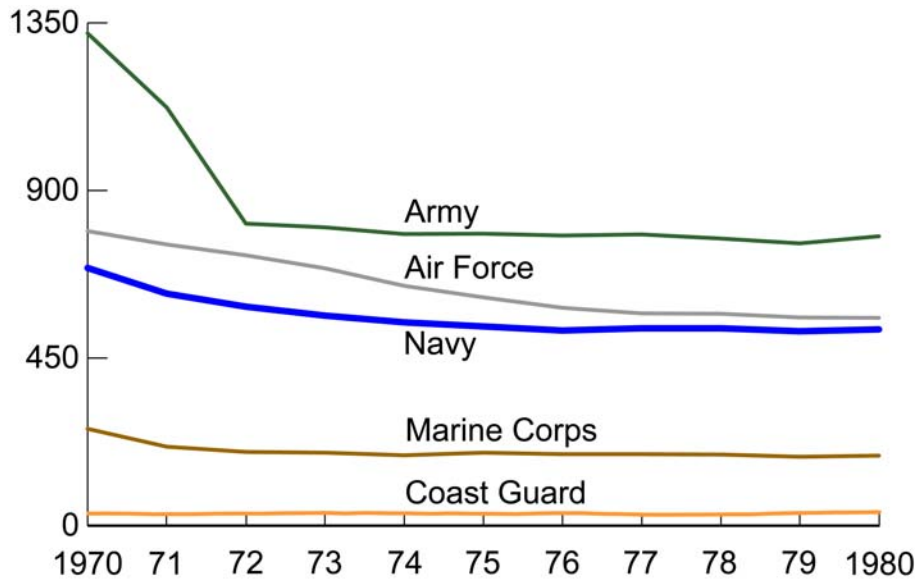
World Events	Year	Administration	SECNAV	CNO	SECAF	CSAF	
Soviet Okean 70	1970	Nixon	Laird	Chafee	Zumwalt	Seamans	Ryan
NPT treaty							
Seabed Treaty	1971						
India-Pakistan War							
Pres. Nixon to China	1972						
INCSEA/ABM Treaty							
US Vietnam Pullout	1973	Richardson	Warner				
USN-Soviet Navy Med					McLucas	Brown	
Confrontation							
India nuclear test	1974	Ford	Schlesinger	Middendorf	Holloway	Jones	
South Vietnam falls	1975		Rumsfeld				
USSR-Egypt Treaty cancelled	1976				Reed		
Panama Canal Treaty	1977	Carter	Brown	Claytor			
Deng leads China					Stetson		
Camp David Accords	1978					Allen	
Shah of Iran falls							
Taiwan Relations Act	1979				Hayward		
Soviets Invade Afghanistan							
Desert One debacle	1980			Hidalgo	Mark		
Mariel (Cuba) boatlift							

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



1970s: U.S. Service Active Duty Personnel

CNA



53

1970s: The U.S. Air Force (I)

CNA

- ◆ 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)

54

1970s: The U.S. Air Force (II)

CNA

- ◆ 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

55

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

CNA

- ◆ 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

56

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

CNA

◆ 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”

57

1970s: U.S. Navy Capstone Documents

CNA

- ◆ 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 *Strategic Concepts of the U.S. Navy, Sea Plan 2000, Future of US Sea Power*

58

1970s: USN-USAF Staff Relationships

CNA

- ◆ 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)
 - ◆ 1971, 1974, 1975, 1979
 - ◆ 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 enthusiasm⁵⁹ in either service

1970s: USN-USAF Operational Relationships

CNA

- ◆ 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)

60

1970s: USN-USAF Operational Relationships

CNA

- ◆ 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

61

1970s: USN-USAF Operational Relationships

CNA

- ◆ 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)

62

1970s: Exercise and Training Relationships

CNA

- ◆ USAF sea surveillance & attack exercises
 - ◆ 4 USAF B-52G-H & FB-111 “Busy Harbor” exercises (1974)
 - ◆ 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

63

1970s: Tactical Aviation Relationships

CNA

- ◆ 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

64

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

65

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)

66

1970s: Strategic Nuclear Relationships (I)

CNA

- ◆ 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

67

1970s: Strategic Nuclear Relationships (II)

CNA

- ◆ Navy Ocean Surveillance Information System (OSIS) fed offshore Soviet *Yankee* SSBN threat data to SAC

68

1970s: Airlift Relationships

CNA

- ◆ 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)

69

1970s: Space Relationships

CNA

- ◆ 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

CNA

- ◆ 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

71

1970s: Basing Relationships

CNA

- ◆ 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).

72

1980s: USN-USAF Relations

CNA



73

1980s: USN-USAF Relationship: Bottom Lines

CNA

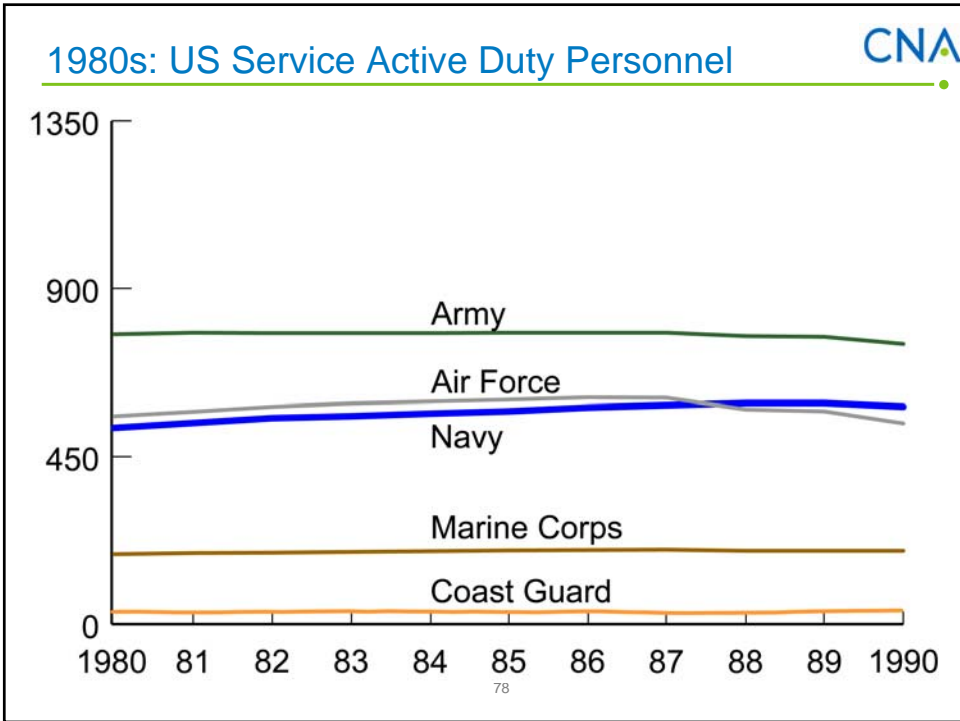
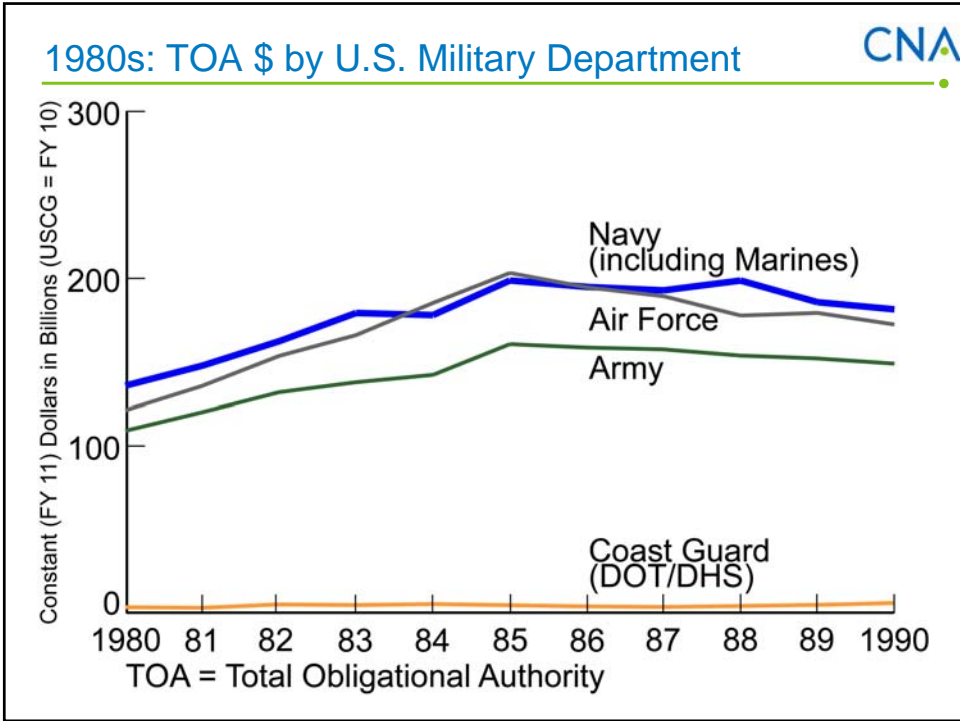
- ◆ Both cooperation & rivalry persisted
- ◆ Continued growth of Soviet Navy led to increased USAF counter-sea roles
- ◆ Congressional & public dissatisfaction with perceived failings of inter-service cooperation resulted in stronger roles for Chairman of the Joint Chiefs of Staff, Unified & Specified 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

World Events	Year	Administration		SECNAV	CNO	SECAF	CSAF		
NATO CONMAROPS	1981	Reagan	Weinberger	Lehman	Hayward	Orr	Allen		
Israeli Bekaa Valley AAW wins	1982				Watkins		Gabriel		
Beirut/Grenada	1983								
Iran-Iraq War	1984								
Gorbachev GSCPSU Walkers arrested	1985							Rourke	
Goldwater/Nichols	1986							Aldridge	Welch
Libya strikes	1987								
Praying Mantis	1988		Carlucci	Webb Ball					
Cold War Ends	1989	Bush	Cheney	Garrett		Rice			
Tiananmen Square Iraq invades Kuwait	1990						Kelso	Dugan	



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

CNA

- ◆ 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

79

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

CNA

- ◆ 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

80

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

CNA

- ◆ 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)

81

1980s: U.S. Air Force Doctrine and Concepts (I)

CNA

- ◆ *Basic Aerospace Doctrine of the United States Air Force* (AFM 1-1) (1984)
 - ◆ “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*

1980s: U.S. Air Force Doctrine and Concepts (II)

CNA

- ◆ Push to enshrine USAF doctrine within joint doctrine
 - ◆ JCS Pub 26 *Joint Doctrine for Theater Counterair Operations (from Overseas Land Areas)* (1986)
 - ◆ *Omnibus Agreement for Command and Control of Marine TacAir in Sustained Operations Ashore* (1986)
- ◆ SECAF Rice, *Global Reach-Global Power* (1990)
 - ◆ Inspired in part by success of *The Maritime Strategy*

83

1980s: U.S. Navy Capstone Documents

CNA

- ◆ 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

84

1980s: USN-USAF Staff Relationships (I)

CNA

- ◆ Increased USN-USAF dialogue & cooperation
 - ◆ Navy-Air Force Memoranda of Agreement (MOAs) (1981, 1983, 1985, 1988)
 - ◆ 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

85

1980s: USN-USAF Staff Relationships (II)

CNA

- ◆ 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)

86

1980s: USN-USAF Staff Relationships (III)

CNA

- ◆ 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
 - ◆ JCS Pub 26 *Joint Doctrine for Theater Counterair Operations (from Overseas Land Areas)* (1986)
 - ◆ 1st doctrinal appearance of Joint Forces Air Component Commander (JFACC) concept
 - ◆ *Omnibus Agreement for Command and Control of Marine TacAir in Sustained Operations Ashore* (1986)
 - ◆ Guidelines for tactical control of USMC aircraft
 - ◆ USN/USA/USAF MOU “Deck Landing Operations for US Army & US Air Force Helicopter Pilots” (1988)
 - ◆ Joint air doctrine often ignored by Navy

87

1980s: USN-USAF Operational Relationships

CNA

- ◆ 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

88

1980s: USN-USAF Operational Relationships

CNA

- ◆ 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

89

1980s: USN-USAF Operational Relationships

CNA

- ◆ 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
- ◆ Persian Gulf “Tanker War” ops (1987-1988)
 - ◆ 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

CNA

- ◆ 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-USAF pilot exchanges: Squadron & flight instructor duty & test pilot schools, war college exchanges

91

1980s: Tactical Aviation Relationships (I)

CNA

- ◆ 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)

92

1980s: Tactical Aviation Relationships (II)

CNA

- ◆ 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)
 - ◆ CSA-CSAF “31 Initiatives” agreement (1984)
- ◆ USAF replaced Iceland air defense F-4 *Phantoms* with new F-15 *Eagles* (1985)

93

1980s: Electronic Warfare Relationships

CNA

- ◆ 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

95

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"

96

1980s: Space Relationships (I)

- ◆ Major organizational changes
 - ◆ US Air Force Space Command created (1982)
 - ◆ Naval Space Command created (1983)
 - ◆ US Navy Naval Electronic Systems Command (NAVELEX) restructured. Became Space and Naval Warfare Systems Command (SPAWAR)
 - ◆ Unified joint US Space Command created (1985)
 - ◆ Navy had opposed
 - ◆ CINC always from USAF; Deputy always from Navy

97

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)

98

1980s: Systems Relationships (I)

CNA

- ◆ Strategic Air Command declared six B-52 squadrons capable of maritime surveillance & mining
- ◆ Two USAF B-52G squadrons fully Harpoon-capable for anti-surface warfare (ASUW) (1985-1989)
 - ◆ At Loring (Maine) & Anderson (Guam) AFBs
- ◆ Commander-in-Chief, US Atlantic Command (USLANTCOM) ADM Baggett successfully argued for retention of USAF SR-71 *Blackbird* reconnaissance aircraft, for surveillance of Kola Peninsula and approaches (1988)

99

1980s: Systems Relationships (II)

CNA

- ◆ 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

CNA



101

1990s: USN-USAF Relationship: Bottom Lines

CNA

- ◆ 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

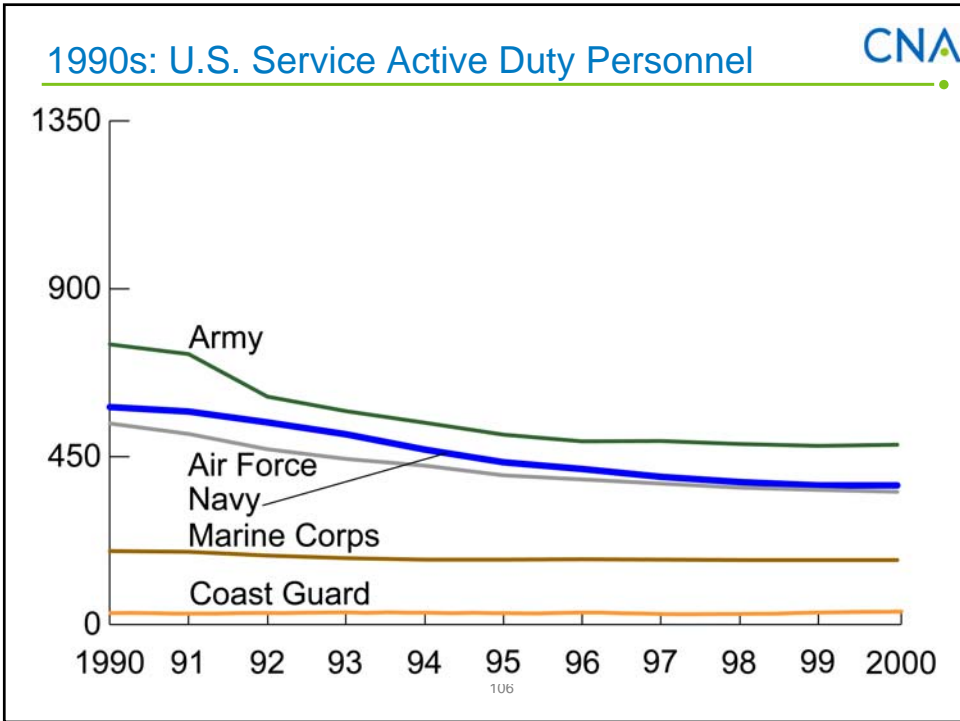
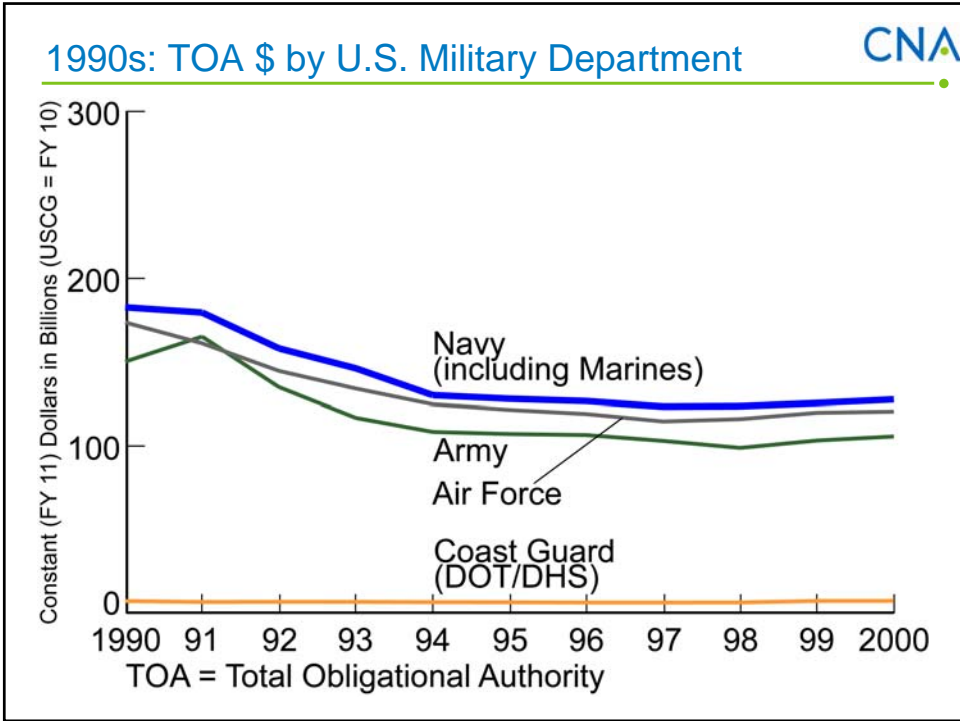
102

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

World Events	Year	Administration	SECNAV	CNO	SECAF	CSAF	
<u>Gulf War</u>	1991	Bush	Cheney	Garrett	Kelso	Rice	McPeak
Somalia ops	1992			O'Keefe		Widnall	
Yugoslav split							
<u>Southern Watch</u>	1993	Clinton	Aspin	Dalton	Boorda	Fogleman	
Somalia/Adriatic Ops							
Iraq TLAM strike	1994						
Haiti crises							
<u>Adriatic ops</u>	1995		Perry				
Somalia ops	1996						
Bosnia ops							
Taiwan Straits crisis	1997				Johnson		
Desert Strike	1998				Peters	Ryan	
Hong Kong to China							
Desert Fox	1999		Cohen	Danzig			
DPRK missile shoot	2000						
<u>Kosovo ops</u>							
Canal to Panama							
USS Cole attack					Clark		



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

107

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

- ◆ E-8 Joint Surveillance Target Attack Radar System (JSTARS) battle management & command & control aircraft introduced (1991)
- ◆ 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)

108

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

CNA

- ◆ 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

109

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

CNA

- ◆ 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

110

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)
 - ◆ CSAF Gen Michael Ryan “Expeditionary Aerospace Force” announcement (1998)
 - ◆ 10 AEFs stood up (1999)
 - ◆ Conscious & publicly acknowledged emulation of Navy rotational forward deployment practices

111

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)

112

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

CNA

- ◆ 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

113

1990s: USAF Capstone Publications (I)

CNA

- ◆ 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*
- ◆ AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force* (1992)
 - ◆ Drafted by Air University CADRE organization
 - ◆ Based more on actual historical experience than predecessors
- ◆ *Global Reach – Global Power: The Evolving Air Force Contribution to National Security* (1992)

114

1990s: USAF Capstone Publications (II)

CNA

- ◆ SECAF Widnall & CSAF Gen Fogelman, *Global Presence* (1995)
- ◆ SECAF Widnall & CSAF Gen Fogelman, *Global Engagement: A Vision for the 21st Century Air Force* (1996)
 - ◆ Emphasized Air Campaigns & US Air Force strategic role in conventional war
 - ◆ Emphasis on space operations
 - ◆ Complex, Air Force-wide development process
- ◆ AFDD 1, *Air Force Basic Doctrine* (1997)
- ◆ SECAF Peters & CSAF Gen Ryan, *America's Air Force Vision 2020: Global Vigilance, Reach & Power* (2000)

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

CNA

- ◆ USAF Scientific Advisory Board, *New World Vistas: Air and Space Power for the 21st Century* (1995)
- ◆ Air University, *Air Force 2025* (1996)
- ◆ AFDD 2-1.4 *Countersea Operations* (1999)

116

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)

117

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

118

1990s: USN-USAF 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

119

1990s: USN-USAF 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 VXE-6 decommissioned (1999)
 - ◆ USN MSC ships & cargo-handling battalion continued to provide sea-borne support

120

1990s: Exercise Relationships

CNA

- ◆ 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

121

1990s: Education and Training Relationships

CNA

- ◆ 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

122

1990s: USN-USAF TACAIR Relationships (I)

CNA

- ◆ 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)

CNA

- ◆ 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 to¹²⁴ 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 Missile (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

125

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)

126

1990s: Electronic Warfare Relationships (III)

CNA

- ◆ 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)

127

1990s: Aerial Refueling Relationships

CNA

- ◆ 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

128

1990s: Strategic Nuclear Relationships (I)

CNA

- ◆ USN SSBN forces finally placed under operational command of a joint unified commander: USCINCSTRAT (1992)
 - ◆ US Strategic Command (USSTRATCOM) command rotated between USAF generals, USN admirals (1994-6, 1998-2002)
- ◆ Reduced USAF focus on nuclear deterrence mission, forces
- ◆ USN nuclear deterrence focus unchanged

129

1990s: Strategic Nuclear Relationships (II)

CNA

- ◆ USN Strategic Communications Wing ONE & its land-based E-6A *Mercury* “TACAMO” SSBN communications aircraft relocated to Tinker AFB, OK (1992)
 - ◆ Inherited *Looking Glass* National Command Authorities (NCA) airborne strategic command & control role from USAF (1998)
 - ◆ Multi-role E-6B aircraft 1st deployed (1998)

130

1990s: Airlift Relationships

CNA

- ◆ 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)

CNA

- ◆ 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)

CNA

- ◆ 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)

133

1990s: USN-USAF Systems Relationships (I)

CNA

- ◆ 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)

134

1990s: USN-USAF Systems Relationships (II)

CNA

- ◆ 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)

135

1990s: USN-USAF Meteorological Relationships

CNA

- ◆ Oceanographer of the Navy – USAF Director of Weather “Navy-Air Force Cooperation Implementation Action Memorandum” (NAVAF Agreement) (Jan 1993)
 - ◆ To evaluate potential areas of cooperation, in the wake of Operation *Desert Storm* meteorological support issues
 - ◆ 19 initiatives identified for study, possible implementation

136



2000s: USN-USAF Relationship: Bottom Lines

- ◆ 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

CNA

- ◆ 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

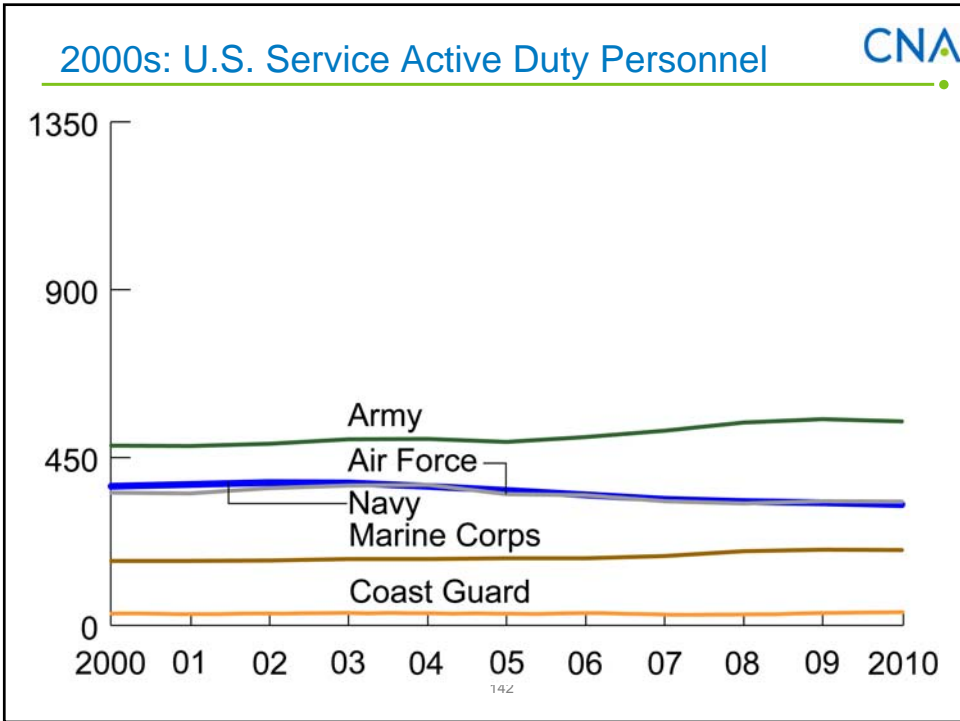
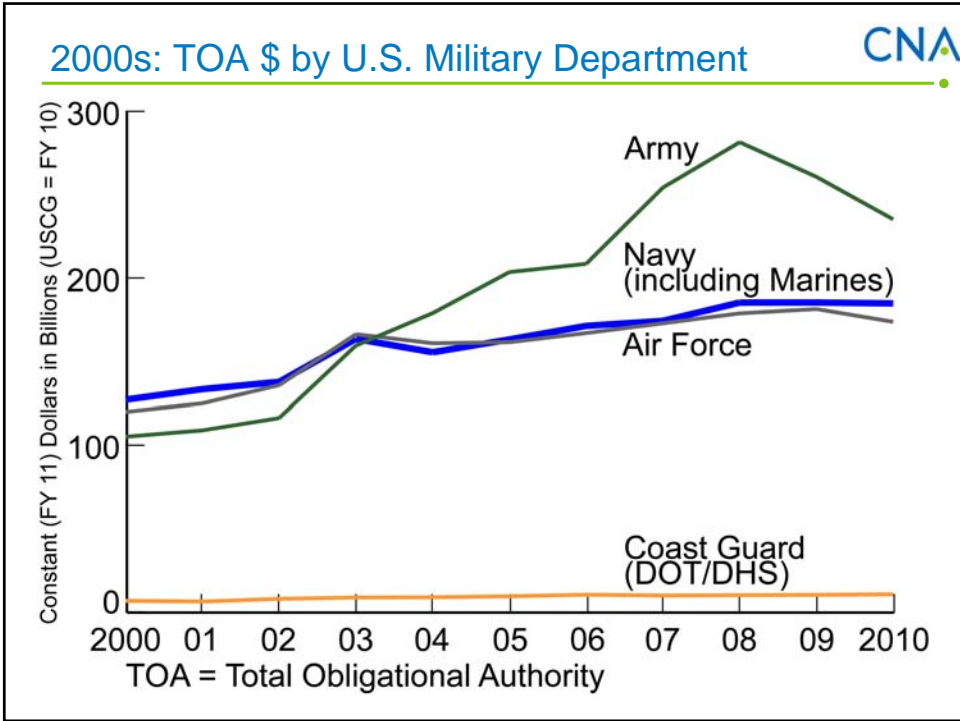
139

2000s: Context for USN–USAF Relations

CNA

World Events	Year	Administration	SECNAV	CNO	SECAF	CSAF	
Attack on America	2001	G.W. Bush	Rumsfeld	England	Clark	Roche	Jumper
Noble Eagle begins	2001						
OEF begins	2002						
JTF GITMO begins	2002						
JTF HOA begins	2003						
OIF begins	2003						
PSI begins	2003						
Iraq ABOT attack	2004						
Indian Ocean tsunami	2004						
Hurricane Katrina	2005						
Bali terror bombings	2005	Winter	Mullen	Wynne	Moseley		
Lebanon evacuation	2006						
DPRK nuclear tests	2006	Gates	Winter	Roughead	Donley	Schwartz	
OIF “surge”	2007						
Bangladesh cyclone	2007						
Somalia piracy	2008	Obama	Mabus				
Nigeria piracy	2008						
Mumbai terror attack	2009						
Global econ. crisis	2009						
DPRK nuclear tests	2010						
DPRK sank ROK ship	2010						

140



2000s: Popular views: Service importance

- ◆ American people attitudes*

*Gallup polls (2001-2010)

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

	Navy	Air Force	Marines	Army
2001	15%	42	14	18
2002	17	36	16	18
2004	9	23	23	25
2007	9	28	20	39
2008	10	26	22	38
2009	10	30	19	35
2010	12	30	18	36

143

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?”

	Navy	Air Force	Marines	Army
2001	14%	32	36	11
2002	13	28	39	13
2004	8	20	44	15
2007	7	25	53	13
2008	9	30	49	10
2009	7	27	55	10
2010	8	27	55	9

144

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

CNA

- ◆ 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-)

145

2000s: The US Air Force (II)

CNA

- ◆ 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)

146

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

CNA

- ◆ 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)

147

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

CNA

- ◆ 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)

148

2000s: USAF Capstone Documents (I)

CNA

- ◆ SECAF Peters & CSAF Gen Ryan, *America's Air Force Vision 2020: Global Vigilance, Reach & Power* (2000)
- ◆ *Air Force Basic Doctrine* (AFDD 1) (2003)
- ◆ CSAF Gen Moseley, *U.S. Air Force Vision* (2006)
- ◆ *Air Force Strategic Plan, 2006-2008* (Oct 2006)
- ◆ CSAF Gen Moseley, *The Nation's Guardians: America's 21st Century Air Force* (Dec 2007)
 - ◆ USAF strategy for next 2 decades
 - ◆ Continued "global vigilance, reach & power" theme
 - ◆ Response (in part) to USN-USMC-USCG *A Cooperative Strategy for 21st Century Seapower* (2007) & to earlier drafts of CNA study *U.S. Navy Capstone Strategies & Concepts* (1970-2009)

149

2000s: USAF Capstone Documents (II)

CNA

- ◆ *Operations and Organization* (AFDD 2) (2007)
- ◆ *United States Air Force Global Partnership Strategy: Building Partnerships for the 21st Century* (2008)
- ◆ Lt Gen Deptula, *Lead Turning the Future: The 2008 Strategy for United States Air Force Intelligence, Surveillance and Reconnaissance* (2008)
- ◆ *Securing the High Ground: Dominant Combat Air Force for America: 2008 Combat Air Force Strategic Plan* (July 2008)
- ◆ SECAF Donley & CSAF Gen Schwartz, *2008 Air Force Strategic Plan* (Oct 2008)

150

2000s: USAF Capstone Documents (III)

CNA

- ◆ Lt Gen Deptula, *Lead Turning the Future: The Vision & Strategy for United States Air Force Intelligence, Surveillance & Reconnaissance* (2010)
- ◆ CSAF Gen Schwartz, *CSAF's Vector: The Way Ahead* (Jul 2010)
- ◆ *Securing the High Ground: Agile Combat Air Power: 2010 Combat Air Force Strategic Plan* (Sep 2010)
- ◆ Gen (Ret) Shaud, *Air Force Strategy Study 2020-2030* (2010)
- ◆ Also:
 - ◆ AFDD 2-3, *Irregular Warfare* (Aug 2007)
 - ◆ *The 21st Century Air Force: Irregular Warfare Strategy* (Jan 2009)

151

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

CNA

- ◆ USAF updated & published *Countersea Operations* AFDD 2-1.4 (2005)
- ◆ *AOMSW: Multi-Service Tactics, Techniques, and Procedures for Air Operations in Maritime Surface Warfare* NTTP 3-20.8/ AFTTP(I) 3-2.74 (Nov 2008)
 - ◆ Published by
 - ◆ Commander Navy Warfare Development Command (NWDC)
 - ◆ Commander, (USAF) Curtis E. Lemay Center for Doctrine Development & Education

152

2000s: U.S. Navy Capstone Documents

CNA

- ◆ 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)
 - ◆ No mention of USAF in *A Cooperative Strategy for 21st Century Seapower* (2007)
 - ◆ Brief mention in *The Naval Operations Concept* (2010) & *NDP 1 Naval Warfare* (2010)

153

2000s: USN-USAF Staff Relationships (I)

CNA

- ◆ 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
 - ◆ Deterrent, engagement & operational roles for significant US forces – chiefly Navy & Air Force – in the vital and dynamically changing US Pacific Command Area of Responsibility (AOR)
 - ◆ Continuing need for a robust modernized strategic nuclear force

154

2000s: USN-USAF Staff Relationships (II)

CNA

- ◆ 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)

155

2000s: USN-USAF Staff Relationships (III)

CNA

- ◆ 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

156

2000s: USN-USAF Staff Relationships (IV)

CNA

- ◆ 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

157

2000s: USN-USAF Staff Relationships (V)

CNA

- ◆ “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
 - ◆ In FY2011-2015 *Guidance for Development of the Force (GDF)* update (28 Jul 2009)
 - ◆ Joint USN-USAF working group formed
 - ◆ CNO & CSAF approved way ahead (May 2010)
 - ◆ Initial classified documentation (2011)
 - ◆ No UNCLAS official discussion of substantive contents available (as of Feb 2011)
 - ◆ Much press, international speculation
 - ◆ Earlier CSBA reports much discussed

158

2000s: USN-USAF Staff Relationships (VI)

CNA

- ◆ 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

159

2000s: USN-USAF Operational Relationships

CNA

- ◆ 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)

160

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)

161

2000s: USN-USAF Operational Relationships



- ◆ 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)

162

2000s: USN-USAF Operational Relationships

CNA

- ◆ 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

163

2000s: Exercise and Training Relationships (I)

CNA

- ◆ 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

164

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
 - ◆ US Navy participation in USAF-Japanese Air Self Defense Force (JASDF) *Cope North* 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

165

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

166

2000s: USAF Maritime Exercise

CNA

- ◆ USAF Operation *Rex Redux* (Aug 2007)
 - ◆ 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

167

2000s: USN-USAF TACAIR Relationships

CNA

- ◆ 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)

168

2000s: Electronic Warfare Relationships (I)

CNA

- ◆ 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

169

2000s: Electronic Warfare Relationships (II)

CNA

- ◆ USAF activated new joint 513th EW squadron at Eglin AFB, to develop, test USAF-USN-USMC F-35 Joint Strike Fighter EW capabilities (2010)
 - ◆ 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

170

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

171

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)

172

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
 - ◆ USN pilot complaints re: OIF USAF tanker shortage (2003)

173

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)

174

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)

175

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)

176

2000s: USN-USAF Systems Relationships (III)

CNA

- ◆ 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

177

2000s: USN-USAF Systems Relationships (IV)

CNA

- ◆ 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)

178

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)

179

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

180

What has Driven the Relationship?

CNA



181

Drivers: Toward Cooperation . . . or Rivalry

CNA

- ◆ 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 . . .

182

The Drivers: Patterns in the Data

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

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

183

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

185

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)

CNA

- ◆ 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

187

Drivers Toward Competition and Rivalry (III)

CNA

- ◆ Material
 - ◆ Real or perceived competition for scarce US defense resources
- ◆ Personal
 - ◆ Competitive personalities – especially leaders -- & inflammatory language

188



- ◆ 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



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196



◆ A2AD	Anti-access/area denial
◆ AAF	Army Air Forces
◆ AAW	Anti-air warfare
◆ ABM	Anti-ballistic missile
◆ ABOT	Al Basrah Oil Terminal
◆ ACC	Air Combat Command
◆ ADCON	Administrative control
◆ AEF	Air and Space Expeditionary Force, Aerospace Expeditionary Force
◆ AFB	Air Force Base
◆ AFDC	Air Force Doctrine Center
◆ AFDD	Air Force Doctrine Document
◆ AFM	Air Force Manual
◆ AFNORTH	Air Forces Northern
◆ AFRI	Air Force Research Institute
◆ AG	Miscellaneous auxiliary
◆ AGM	Missile range instrumentation ship
◆ ALCM	Air-launched cruise missile

Glossary (continued)

CNA

◆ 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)

CNA

◆ 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)



◆ DHS	Department of Homeland Security
◆ DOD	Department of Defense
◆ DOT	Department of Transportation
◆ DPRK	Democratic People's Republic of Korea
◆ DSP	Defense Support Program
◆ EBO	Effects based operations
◆ ELINT	Electronic intelligence
◆ ETC	Estimated Time of Completion
◆ EW	Electronic warfare
◆ FLTSATCOM	Fleet Satellite Communications System
◆ FOL	Forward Operating Location
◆ FSCL	Fire Support Coordination Line
◆ FY	Fiscal Year
◆ GDF	Guidance for Development of the Force
◆ GHQ	General Headquarters
◆ GITMO	Guantanamo Bay
◆ GLCM	Ground-launched cruise missile
◆ GNA	Goldwater-Nichols Act

201

Glossary (continued)



◆ GPS	Global Positioning System
◆ GRAB	Galactic Radiation & Background
◆ GSCPSU	General Secretary of the Communist Party of the Soviet Union
◆ HARM	High-speed Anti-Radiation Missile
◆ HOA	Horn of Africa
◆ ICBM	Inter-continental ballistic missile
◆ INCSEA	Incidents at Sea Agreement
◆ Intel	Intelligence
◆ JASDF	Japanese Air Self Defense Force
◆ JASSM	Joint Air-to-Surface Standoff Missile
◆ JAST	Joint advanced strike technology
◆ JCS	Joint Chiefs of Staff
◆ JDA	Joint Deployment Agency
◆ JDAM	Joint Direct Action Munition
◆ JFACC	Joint Forces Air Component Commander
◆ JPALS	Joint Precision Approach & Landing System
◆ JPATS	Joint Primary Air Training System

202

Glossary (continued)

CNA

◆ 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

Glossary (continued)

CNA

◆ 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
◆ NAVALEX	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

204

Glossary (continued)

CNA

◆ NPT	Treaty on the Non-Proliferation of Nuclear Weapons
◆ NRL	Naval Research Laboratory
◆ NRO	National Reconnaissance Office
◆ NSAWC	Naval Strike and Air Warfare Center
◆ NTPF	Near Term Prepositioning Force
◆ NWC	Naval War College
◆ NWP	Naval Warfare Publication
◆ OEF	Operation Enduring Freedom
◆ OIF	Operation Iraqi Freedom
◆ OPCON	Operational control
◆ OPNAV	Office of the Chief of Naval Operations
◆ Ops	Operations
◆ OSA	Operational Support Aircraft
◆ OSD	Office of the Secretary of Defense
◆ OSIS	Ocean Surveillance Information System
◆ PACOM	Pacific Command

205

Glossary (continued)

CNA

◆ PGM	Precision-guided munitions
◆ PLAN	People's Liberation Army Navy
◆ PMRF	Pacific Missile Range Facility
◆ Pres.	President
◆ PSI	Proliferation Security Initiative
◆ recce	reconnaissance
◆ ROK	Republic of Korea
◆ SAC	Strategic Air Command
◆ SAR	Search and Rescue
◆ SEAD	Suppression of Enemy Air Defenses
◆ SECAF	Secretary of the Air Force
◆ SECDEF	Secretary of Defense
◆ SECNAV	Secretary of the Navy
◆ SIOP	Single Integrated Operational Plan
◆ SLAM-ER	Standoff land-attack missile – expanded response
◆ SLBM	Submarine-launched ballistic missile

Glossary (continued)

CNA

◆ SLEP	Service Life Extension Program
◆ SLMM	Submarine-launched mobile mine
◆ SPAWAR	Space and Naval Warfare Systems Command
◆ SSBN	Nuclear-powered ballistic missile submarine
◆ SSN	Nuclear-powered submarine
◆ SWA	Southwest Asia
◆ TAC	Tactical Air Command
◆ TACAIR	Tactical air, tactical aircraft
◆ T-AGOS	Ocean surveillance ship
◆ TLAM	Tomahawk land attack missile
◆ TOA	Total Obligational Authority
◆ TTP	Tactics, techniques & procedures
◆ UAS	Unmanned aerial system
◆ UAV	Unmanned aerial vehicle
◆ UCAS	Unmanned combat aircraft system
◆ UHF	Ultra high frequency
◆ UNCLAS	Unclassified
◆ USAF	United States Air Force
◆ USCENTCOM	United States ²⁰ Central Command

Glossary (continued)

CNA

◆ USCINCSpace	Commander-in-Chief, United States Space Command
◆ USCINCSSTRAT	Commander-in-Chief, United States Strategic Command
◆ USCINCTrans	Commander-in-Chief, United States Transportation Command
◆ USMC	United States Marine Corps
◆ USN	United States Navy
◆ USNORTHCOM	United States Northern Command
◆ USNS	United States Naval Ship
◆ USSOCCOM	United States Special Operations Command
◆ USSOUTHCOM	United States Southern Command
◆ USSPACECOM	United States Space Command
◆ USSR	Union of Soviet Socialist Republics
◆ USSTRATCOM	United States Strategic Command
◆ USTRANSCOM	United States Transportation Command
◆ vs.	versus
◆ WESTPAC	Western Pacific

208

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