NINE ☆
DEADLY CONNECTION

I'll tell you how the war in Korea was ended. We got in there and had this war on our hands. Eisenhower let the word go out . . . to the Chinese and the North Koreans that we would not tolerate this continual ground war of attrition. And within a matter of months, they negotiated. Well, as far as negotiation [in Vietnam] is concerned, that should be our position . . . I'll tell you one thing. I played a little poker when I was in the Navy. I learned this – when a guy didn't have the cards, he talked awfully big. But when he had the cards, he just sat there – had that cold look in his eyes. Now we've got the cards. What we've got to do is walk softly and carry a big stick.

—President Richard Nixon, 1969[1]

The function of Pacific Command is to project American military power beyond the territory of the United States into Asia and the southern flank of the Middle East. There are two dimensions to power projection: "coercive diplomacy", that is, the use of the means of war to influence adversaries and allies; and "warfighting", the actual engagement of military forces in combat. Pacific Command relies on nuclear and non-nuclear forces to project power. For coercive diplomacy, both means are used routinely. Warship visits, naval shows-of-force, military exercises, and military alerts to back up direct or indirect military threats are examples of coercive diplomacy.

Before a war erupts, warfighting and coercive diplomacy are conceptually and practically distinct. Once combat begins, however, they

are usually merged so that the threat of escalation to even greater violence is used to coerce the opponent into accepting defeat.

While nuclear weapons* have not been used in warfighting since 1945, both superpowers rely on nuclear forces to conduct coercive diplomacy in the Pacific. The U.S. especially has tried to extract political and military advantage from nuclear threats. Indeed, some U.S. planners feel that the outcome of *non-nuclear* conflicts is dependent on the capacity to threaten the use of *nuclear* weapons. Paul Nitze, one of the most influential leaders of the defense establishment, put it this way:

> It is a copybook principle in strategy that, in actual war, advantage tends to go to the side in a better position to raise the stakes by expanding the scope, duration or destructive intensity of the conflict. By the same token, at junctures of high contention short of war, the side better able to cope with the potential consequences of raising the stakes has the advantage. The other side is the one under greater pressure to scramble for a peaceful way out. To have the advantage at the utmost level of violence helps at every lesser level. In the Korean War, the Berlin blockades, and the Cuban missile crisis the United States had the ultimate edge because of our superiority at the strategic nuclear level.[3]

Despite their proclivity to inject nuclear elements into coercive diplomacy, American leaders have often found themselves confronted by the inherent difficulty of moving from symbolic threats to nuclear warfighting. Even Henry Kissinger, the high priest of coercive diplomacy, discovered in 1974 that the vast destructive potential of nuclear weapons made it impossible to use them to communicate an unambiguous threat to the Soviets. Defense analyst Fred Kaplan reports that Kissinger ordered the Pentagon to prepare a limited nuclear war contingency plan for trading blows with the Soviets over Iran. The generals presented Kissinger with a plan to blast the southern Soviet Union with two hundred nuclear weapons. Aghast, he threw them out. Chastened, they returned with a new plan: two nuclear weapons. Kissinger rolled his

* Long-range nuclear weapons are often called "strategic" and are distinguished from "tactical" nuclear weapons. As every war is strategic, and all means of war are tactical,[2] we simply refer to wars in which nuclear weapons are exploded as nuclear war, stating if we mean that the war is limited or all-out, and if the nuclear weapons are long- or short-range.

eyes and gave up since the puny size of this "limited" nuclear attack would have revealed nervousness rather than resolve.[4]

Incorporating nuclear blackmail into the toolkit of U.S. diplomacy, in short, has not been easy. Nuclear weapons remain essentially a-strategic, or unusable, and some senior commanders in the Pacific know it.[5] In addition to the politically cumbersome nature of nuclear weapons, U.S. strategists have not solved the technical problems in managing the battlefield on which many "small" nuclear weapons are exploding, especially if both sides are nuclear-armed.*

In fact, projecting power with conventional weapons – which requires flexibility in the application of force – has been cramped at times by the technology required to threaten nuclear attack. During the 1958 Taiwan Straits crisis for example, the Joint Chiefs of Staff had to issue a special instruction *not* to use nuclear weapons during the initial stage of conflict. Since air units were "operationally and logistically tailored primarily for nuclear warfare", the instruction disrupted basic planning assumptions (see Chapter 3).[7] In the 1968 *Pueblo* incident in Korea, U.S. policymakers were alarmed to discover that F-4 fighter-bombers based in south Korea were still so nuclear-laden that they could not be used in time to retaliate against north Korea.[8]

Although the a-strategic nature of nuclear weapons has blocked their use in warfighting, the United States and the Soviet Union have designed and deployed an incredible array of nuclear weapons for every conceivable wartime mission. Because the nuclear and non-

* Nuclear weapons are seen by military planners as appropriate for destroying massed adversarial forces concentrating to attack with conventional weapons. An army under nuclear attack will therefore disperse and move around quickly to avoid offering "lucrative" nuclear targets. But countering such tactics will stretch resupply and support capabilities beyond breaking point, and logistical beachheads (ports, airfields) are also highly vulnerable to nuclear counter-attack. Vigorous attacks would be necessary to achieve rapid victory under these conditions, but the dispersed frenzy of mobile forces, already difficult to command or communicate with, cannot be coalesced to impose "victory" without providing tempting nuclear targets. Alternatively, in a conflict in which only one side uses nuclear weapons, the non-nuclear party's troops can disperse, and then gather quickly around the opposition's concentrated forces. This "hugging" tactic effectively blocks use of nuclear weapons to achieve battlefield victory. Except as a desperation measure, some U.S. military analysts have concluded that the nuclear battlefield is untenable.[6]

nuclear forces are inextricably connected at all levels of technology, doctrine, and practice, the threat of nuclear war is always latent in any crisis involving the military forces of the superpowers. It is this deadly connection between the nuclear and non-nuclear means of war which is central to fully comprehending the nuclear peril in the Pacific.

First, American conventional and nuclear forces are technologically inseparable. Most U.S. military units are now structured to fight a nuclear war, even if their primary mission is non-nuclear coercive diplomacy. As Paul Wolfowitz, senior State Department official for Asia and Pacific Affairs emphasized in 1985: "We have only one Navy, not one conventionally-capable Navy and one nuclear-capable Navy." [9]

The degree of integration of nuclear and non-nuclear forces varies. The Ohio-class submarines which carry Trident ballistic missiles are dedicated wholly to projecting nuclear power against nuclear-armed enemies. Communications and intelligence facilities, on the other hand, can switch easily to support nuclear or non-nuclear military force.

Most of the important weapons systems are designed to support both nuclear and non-nuclear power projection. Moreover, the distinction between nuclear and non-nuclear firepower is eroding rapidly. The "firebreak" – the dividing line between conventional and nuclear weapons – is rapidly disappearing as low-yield nuclear and high-yield conventional weapons are deployed, more weapons deliver nuclear *or* conventional warheads, and military planners integrate nuclear *and* conventional tactics.[10] Through the convergence of military doctrine and *technical* capability, the "firebreak" is now primarily a *political* concept, composed of what Michael Klare calls "moral and psychological" elements.[11]

The "firebreak", in other words, is nothing more than the *political* constraints imposed on America's nuclear decision-making by its allies, the Soviets, and domestic political forces. Technically and militarily, American conventional posture is now indistinguishable from its nuclear posture.

Second, at the level of *doctrine*, the distinction between "nuclear" and "conventional" war planning disappeared decades ago. Within five years after the bombing of Hiroshima and Nagasaki, the Air Force had completely reorganized itself around the delivery of nuclear weapons. The Army and the Navy were not far behind, integrating nuclear weapons during the postwar decade. With nuclear weapons fully deployed by 1953, President Eisenhower proclaimed that: "Atomic

weapons have virtually achieved conventional status within our armed forces." [12] In 1956, the U.S. Army instructed war colleges to "depict atomic warfare as the typical and to treat non-atomic warfare as a modification of the typical." [13] Admiral William Crowe, Commander-in-Chief of the Pacific from 1983 to 1985, stated the obvious in 1985: "U.S. forces, nuclear and non-nuclear, are indivisible. When someone says that they are anti-nuclear and not anti-American, that is an intellectual distinction that is not meaningful." [14]

Third, in *practice*, both superpowers have used nuclear coercive diplomacy to seek the upper hand in conflicts in the Asia-Pacific. The Soviet Union, for example, rattled its rockets against the U.S. in the Korean War and during the Taiwan Straits crises in 1954 and 1958, against China in 1969, and against Japan in the 1950s and 1980s. While the Soviet threats remain verbal, the U.S. style has been to couple verbal threats with the mobilization of nuclear-capable units, as against China in 1953, 1954, 1958; in Korea during 1951, 1953, and 1968; and in Vietnam during 1954 and 1968.* [16] The actual use of U.S. nuclear weapons was blocked by the response of America's European or Pacific allies, or by the popular revulsion which would have erupted at home and abroad. As Admiral Noel Gayler, former Commander-in- Chief Pacific, points out: "*Any* use of nuclear weapons against any Asian people for any reason whatever would undoubtedly be regarded as a racist act and would polarize all Asia against us." [17]

American strategists have also attempted to gain political advantage by manipulating the risk of nuclear war with the Soviet Union, which is capable of massive nuclear retaliation. In 1973, for example, Secretary of State Henry Kissinger ordered U.S. bases on a global nuclear alert (Defense Condition 3) to warn the Soviets against increasing their involvement in the Arab–Israeli war. Some U.S. military commanders, such as former CINCPAC Admiral Noel Gayler, disapproved of this ambiguous political use of nuclear weapons. As he pointed out in a 1984 interview:

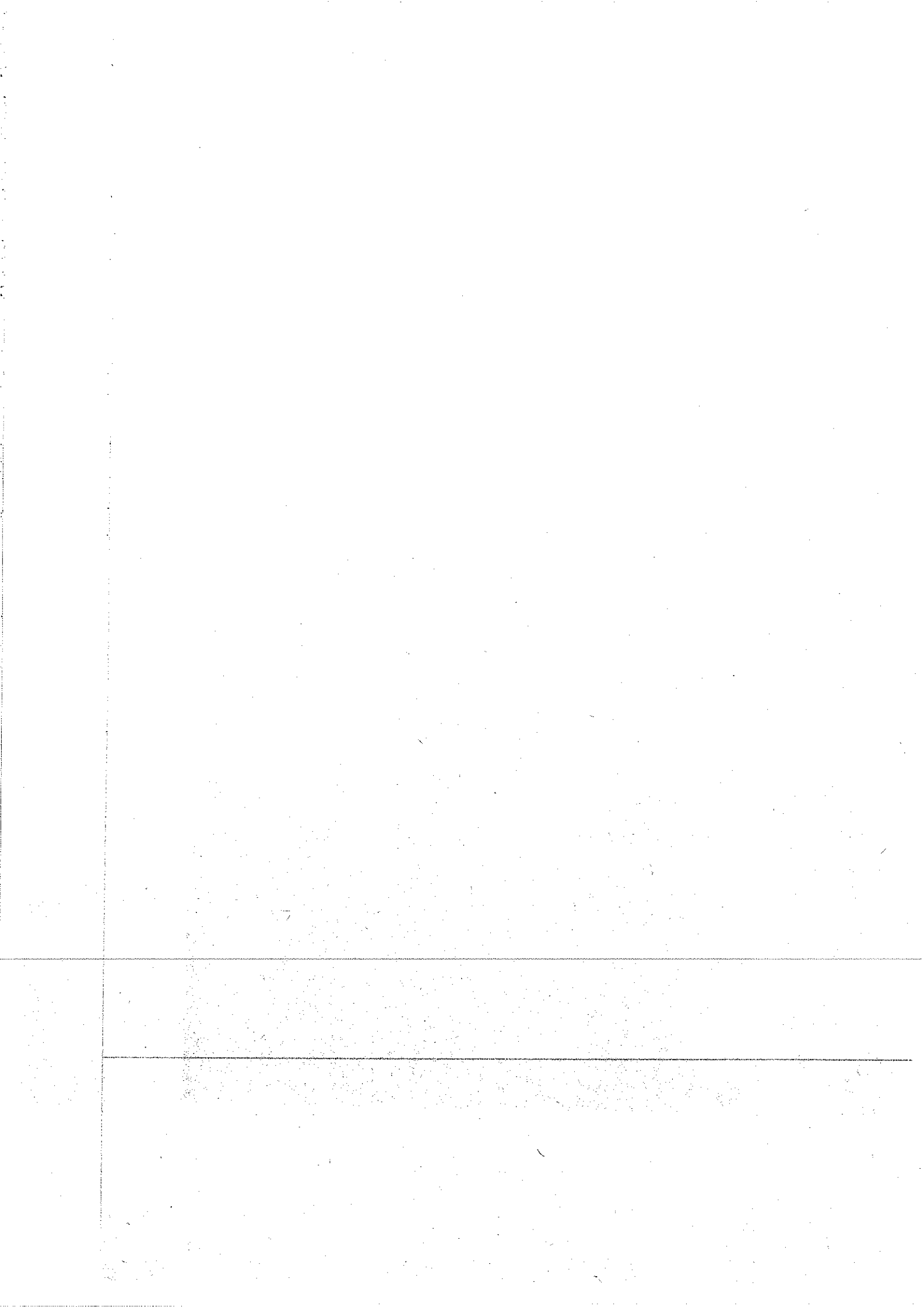
* This list does not include the events involving U.S. Pacific- based nuclear forces in global alerts; for example, in the Cuban Missile Crisis in 1962, the 1968 B-52 month-long alert aimed at bringing pressure on Vietnam via the Soviet Union,[15] or the use of nuclear-armed or nuclear-capable weapon systems such as B-52 bombers or aircraft carriers in non-nuclear attacks or threat displays which always connote the ultimate threat.

I think that a lack of proportion between diplomatic gains and the risk of nuclear war has been manifest. I was extremely unhappy in Henry Kissinger's going to Condition 3 during the Arab–Israeli War. I thought he used that as a "signal" to the Soviets, and actually put all our forces in a higher state of readiness. In my experience, to use military states of readiness as a signal to the opposition is a profoundly mistaken thing to do. In the first place, the signal is always, not even sometimes, but always misread. What we think is a prudent show of resolve or a prudent buildup in order to be able to negotiate is regarded by the other side as getting ready to attack, as attempting to impose our will on them, or attempting to get a strategic advantage which permits coercion of the other side. They are always, not just usually, bad signals . . . It is that lack of proportion in the nuclear field which is the most dangerous situation which we can have.[18]

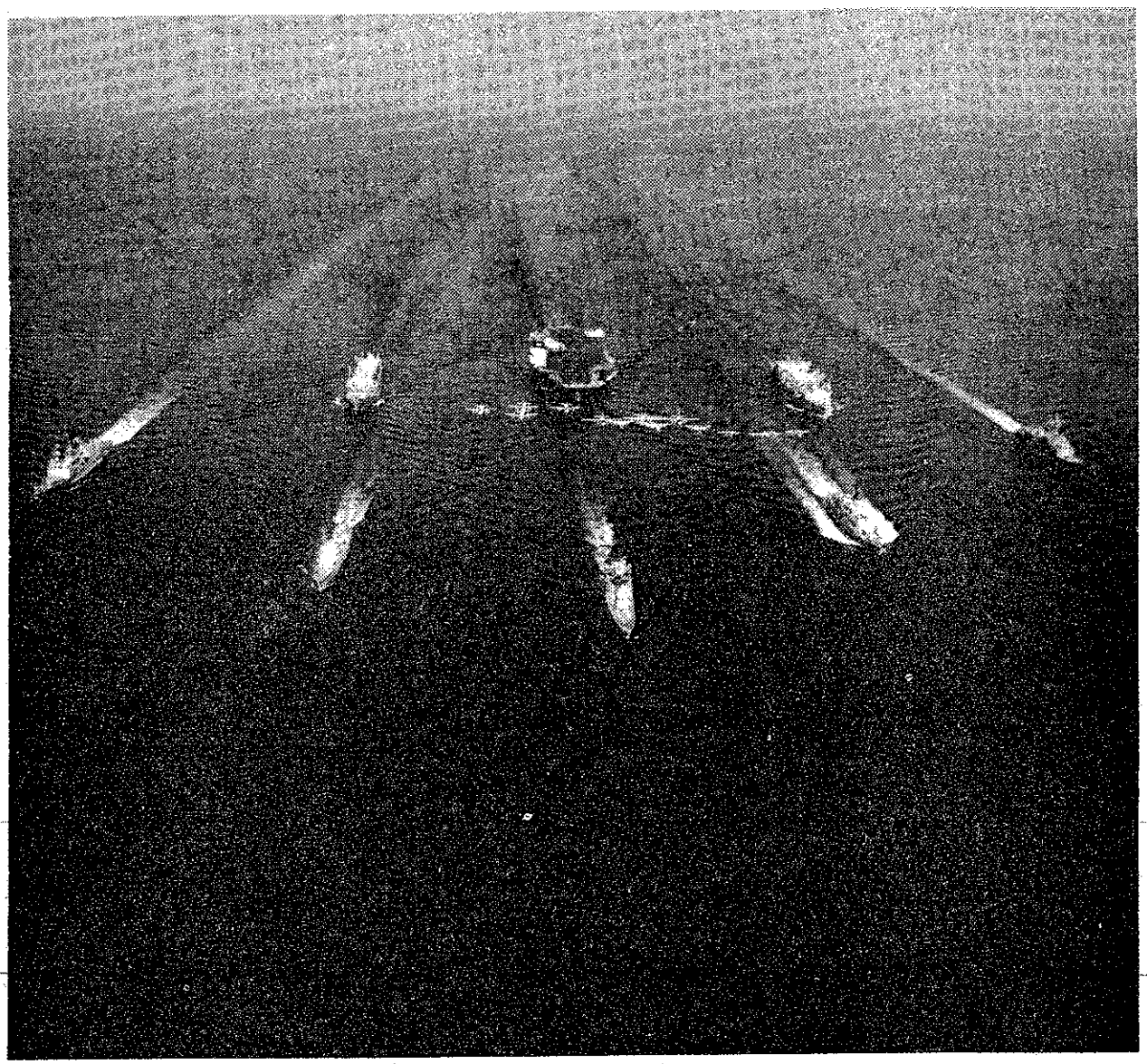
In addition to their technological and doctrinal integration, nuclear and non-nuclear means of war are intertwined in buttressing the forward deployment of the superpowers in the Pacific. Conventional forces, for example, obtain and secure forward bases such as communications and intelligence facilities which support long-range nuclear weapons. In an all-out nuclear war, non-nuclear and short-range nuclear forces would be mobilized to protect and to deliver nuclear weapons. Indeed, in 1981 the U.S. Pacific Command issued a comprehensive order that "contingency war plans will consider maintenance of a logistic posture necessary to support a general war." [19] Few analysts believe general war can be maintained against the Soviet Union without the use of nuclear weapons.

Even the Green Berets, the archetype of non-nuclear forces trained for counterinsurgency and unconventional warfare, are intimately involved in nuclear war plans. In a nuclear war, Green Berets such as the newly revived contingent in Okinawa, will parachute behind the lines with back-pack guidance devices for nuclear missiles or nuclear bombs to attack "choke points" such as bridges or narrow valleys.[20]

While U.S. forces and weapons in the Pacific can be separated analytically into nuclear and non-nuclear components, the deadly connection must always be kept in mind: the interlocking of conventional and nuclear capability is at the very heart of U.S. military strategy. Conventional forces support the nuclear and the nuclear reinforce the conventional, in projecting American power through coercive diplomacy and fighting wars. American forces in the Pacific comprise a single arsenal – nuclear weapons are at its core.



USS *America* underway with her Battle Group in the Indian Ocean, April 1983 (U.S. Navy)



TEN ☆ PACIFIC COMMAND

Sea power equals surface ships *plus* submarines *plus* Naval bases *plus* trained personnel *plus* the productive capacity to equip, operate and fight them.

—Admiral King, 1945[1]

Deterrence is less effective than destruction in that it permits the enemy to retain a threatening force in being.

—U.S. Navy Doctrine, 1978[2]

The United States projects power in the Pacific through its massive arsenal encompassing Navy, Air Force, Marine and Army forces. Each type of force – naval, airborne, amphibious, and ground, as well as counterinsurgency and "irregular" combat units – contributes to American coercive diplomacy and warfighting capabilities in the Pacific.

Pacific Command

The vast, multi-service U.S. arsenal is welded together into a unified structure – the Pacific Command. The largest of all U.S. unified commands, the Pacific is the responsibility of a Navy admiral who bears the title, Commander-in-Chief Pacific or CINCPAC (see Table 10.1). From his headquarters at Camp Smith in Hawaii, CINCPAC commands 320,000 troops of the Army, Navy, Marine Corps, and Air Force over a

region encompassing the Aleutian Islands, the Pacific and Indian Oceans, China and the Soviet Far East – half the earth's surface*[3] (see Map 10.1).

Reflecting the Navy's de facto dominance in the Pacific, CINCPAC is by tradition a Navy Admiral. Admiral William J. Crowe, CINCPAC from 1983 to 1985, is typical of the senior stature of the post. Crowe is an expansive and witty Naval Academy and Princeton University graduate, whose experience includes tours in Vietnam (Naval Riverine Force); the Office of Micronesian Status Negotiations (Department of the Interior); the Defense Department (Director, East Asia and Pacific Region); and the United Nations (Senior U.S. Military Representative). Immediately prior to his appointment as CINCPAC in July 1983, Crowe served concurrently as Commander-in-Chief Allied Forces Southern Europe and Commander-in-Chief U.S. Naval Forces Europe.[4] From CINCPAC, Crowe moved into the Pentagon's top military position, Chairman of the Joint Chiefs of Staff.

More than just a military commander, CINCPAC plays a pivotal role in U.S. diplomacy. "The State Department ought to pay half his salary," claims Crowe's former executive assistant, "as he really is an ambassador." [5] Indeed, so prominent is CINCPAC's foreign policy role that, since 1957, the State Department has assigned an advisor to travel and consult with him.[6] One scholar of American bureaucratic politics describes CINCPAC as "one of the most important centers of political as well as military power in America." [7] In addition to appointing his own representatives to U.S. missions and embassies within his Command (see Appendix A1), CINCPAC undertakes "grand state visits" and receives visiting dignitaries.[8] As the head of a de facto diplomatic service, CINCPAC operates, in the words of General T. R. Milton, as "the powerful proconsul of a powerful nation." [9]

Command Structure

Branching out from CINCPAC are long, multi-tiered chains of command. In addition to commanding each service, CINCPAC heads

* The ocean adjacent to South America is excluded from Pacific Command, as are Africa, the Middle East, Pakistan, or Afghanistan. How far west into the Soviet Union or China the Command extends in peace or wartime is classified.

Table 10.1:
U.S. Military Forces Assigned to U.S. CINCPAC,[a] 1984

Army

1 Infantry Division (south Korea)
1 Infantry Division (Hawaii)

Marine Corps

1 Marine Division (Okinawa)
1 Marine Division (Hawaii)
1 Marine Division (California)

RDF Forces [b,c]

Air Force

1 Strategic Bomber Squadron
10 Tactical Fighter Squadrons
5 Tactical Support Squadrons

Navy

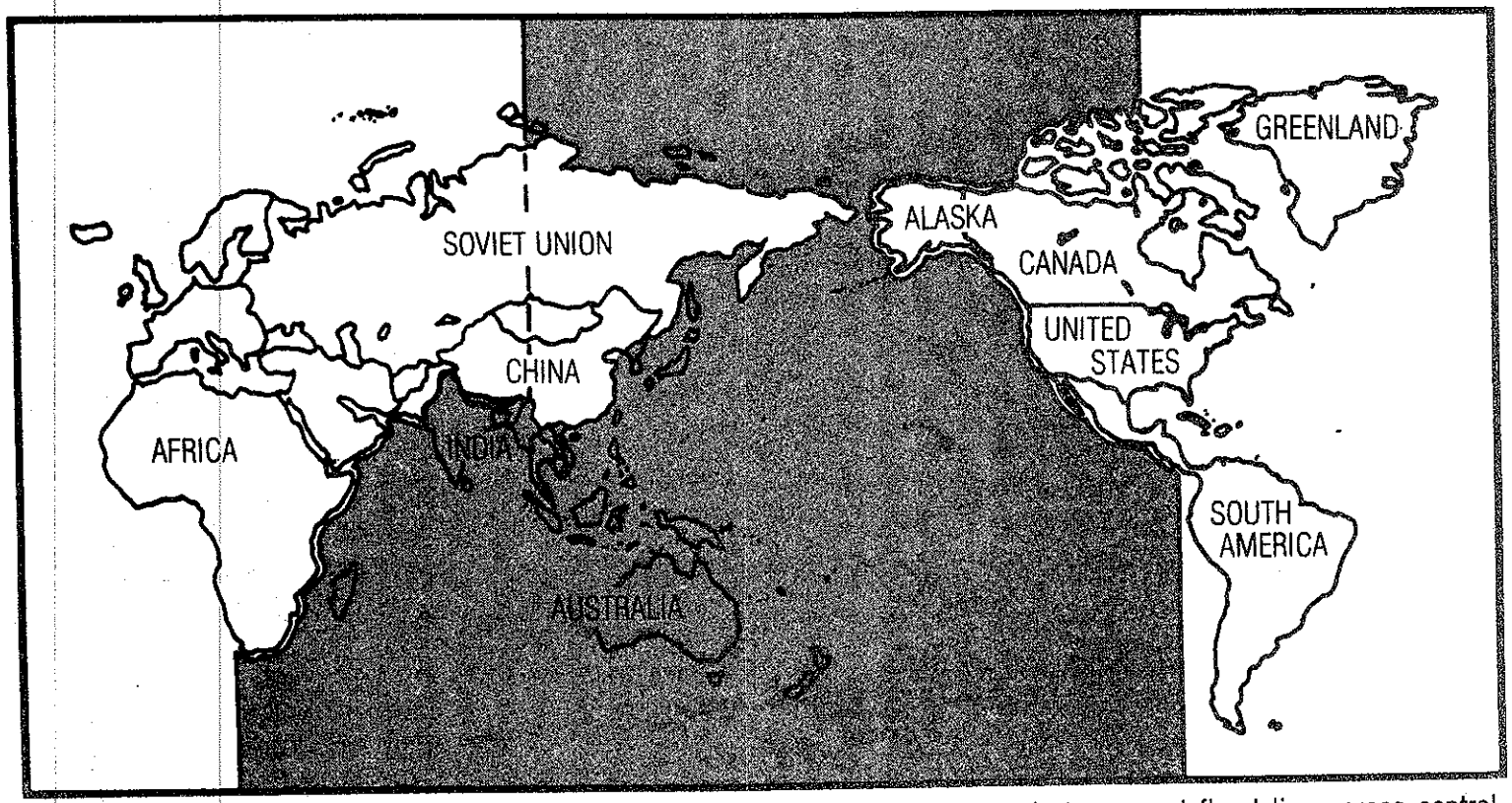
6 Carriers with Air Wings
89 Surface Combatants
32 Amphibious Ships
40 Attack Submarines
12 Maritime Patrol Aircraft Squadrons

Special Operations Forces [c]

1 Army Battalion (Okinawa)

Notes: a. U.S. Commander-in-Chief, Pacific; b. Rapid deployment forces, now under Central Command; c. Forces assigned by Joint Chiefs of Staff on *ad hoc* basis.
Source: C. Weinberger, *Annual Report to Congress, Fiscal Year 1985*, Department of Defense, Washington, D.C., 1984, p. 203; D. Meyer, 'Does the U.S. Need to Modernize its Army in the Pacific?' *Armed Forces Journal International*, May 1985, p. 100.

Map 10.1:
CINCPAC Area of Responsibility



Note: Whether PACOM area of operational control envisaged in war plans extends to an undefined line across central China and Siberia is unknown.

multi-service, unified commands in particular geographic areas (such as U.S. Forces Japan and U.S. Forces Korea); and elements of single service commands (such as the Military Aircraft Command), when they are deployed in his region.* The Guam-based forces of the global Strategic Air Command, however, maintain complete operational independence from CINCPAC.

The immediate subordinates of CINCPAC are the regional heads of the Navy, Army, and Air Force. The Navy Commander (CINCPACFLT), based at Pearl Harbor, directs the 7th (West Pacific) and 3rd (East Pacific) Fleets; seven functional commands based in Hawaii or San Diego; and four sub-regional commands (see Appendix A2 and B).

Although they are part of the Department of the Navy, the Marines have their own command structure, with overall headquarters in Hawaii and a regional command post in Okinawa.† The Air Force Pacific Commander-in-Chief is based in Hawaii, and directs subordinates in Japan, south Korea, Okinawa, and the Philippines.

Army Commands in the region are more fragmented than those of the other services, with authority split between Army Western Command in Hawaii,‡ 8th Army Command in south Korea, and Commander U.S. Army Japan. Complicating the situation further, when the Commander of the 8th Army in Korea puts on his hats as the U.S. Commander in Korea and Combined Forces Commander for the

* A unified command is composed of forces from two or more services. A single service or specified command on the other hand is a "top echelon U.S. combatant organization with regional or functional responsibilities, which normally is composed of forces from one military service." The Army and the Navy command are thus specified commands.[10] Military Airlift Command (MAC) is another specified command run by the Air Force. MAC's transport planes fall under CINCPAC's operational control when they reside in rather than merely transit through Pacific Command. In contrast, ships of Military Sealift Command in the Pacific fall wholly under CINCPAC.[11] Specified Commands such as the U.S. Army or Air Force retain *administrative* responsibility for their Pacific forces, while CINCPAC is their *operational* Commander.

† The Commander, Fleet Marine Force Pacific reports to CINCPAC through CINCPACFLT, who is the senior naval officer under CINCPAC.[12]

‡ Western Command controls the rapidly deployable 25th Infantry Division in Hawaii, and in peacetime, the 2nd Infantry Division in south Korea. In wartime the latter passes to the Commander U.S. Forces Korea, who also has operational control over Air Force but not over naval U.S. forces in his theater.

peninsula, he is responsible to the Joint Chiefs of Staff rather than CINCPAC.[13]

Born of inter-service jealousies, this complex of overlapping, contradictory military capabilities has often complicated the implementation of CINCPAC's strategy. In an actual war situation, CINCPAC could lose effective control over the massive U.S. nuclear arsenal in the Pacific because of confusion in the command structure (see Chapters 5 and 12).

The Pacific Fleet

The Navy is the cutting edge of American power in the Pacific, a role it has played since the U.S. became a world power at the turn of the century. In 1908, the Great White Fleet sailed around the world to signal the emergence of the United States as a global naval power.[14] To counter the rise of Japanese naval power, a Pacific-wide fleet was first established in 1919.[15]

Today the U.S. Navy's Pacific Fleet is divided into two major flotillas: the 7th Fleet, which cruises the West Pacific and Indian Oceans; and the 3rd Fleet, which operates in the East Pacific along the broad littoral of North and South America. The 7th Fleet deployed on average about twenty-three major warships at sea in 1984*, available for grouping into two carrier battlegroups or surface action groups centered on rejuvenated battleships. These task forces operate mostly in the northwest Pacific or the Indian Ocean, with visits to intermediate areas such as the South China Sea. A large number of assigned and active vessels back up these warships (see Table 10.2).†

Between 1968 and 1978, the number of general purpose‡ ships in the

* Average 7th Fleet West Pacific/Indian Ocean at-sea surface warship deployments in 1983 were two aircraft carriers, nine escort cruisers and destroyers, and twelve frigates.[16]

† The 3rd Fleet in the East Pacific is oriented toward training and is not considered deployed. Overall, the average 3rd Fleet vessel is at sea only 28 per cent of the time, while the average 7th Fleet vessel is at sea – actively engaged in exercises, diplomacy, or war – 60 per cent of the time.[17]

‡ Excluding ballistic missile launching submarines.

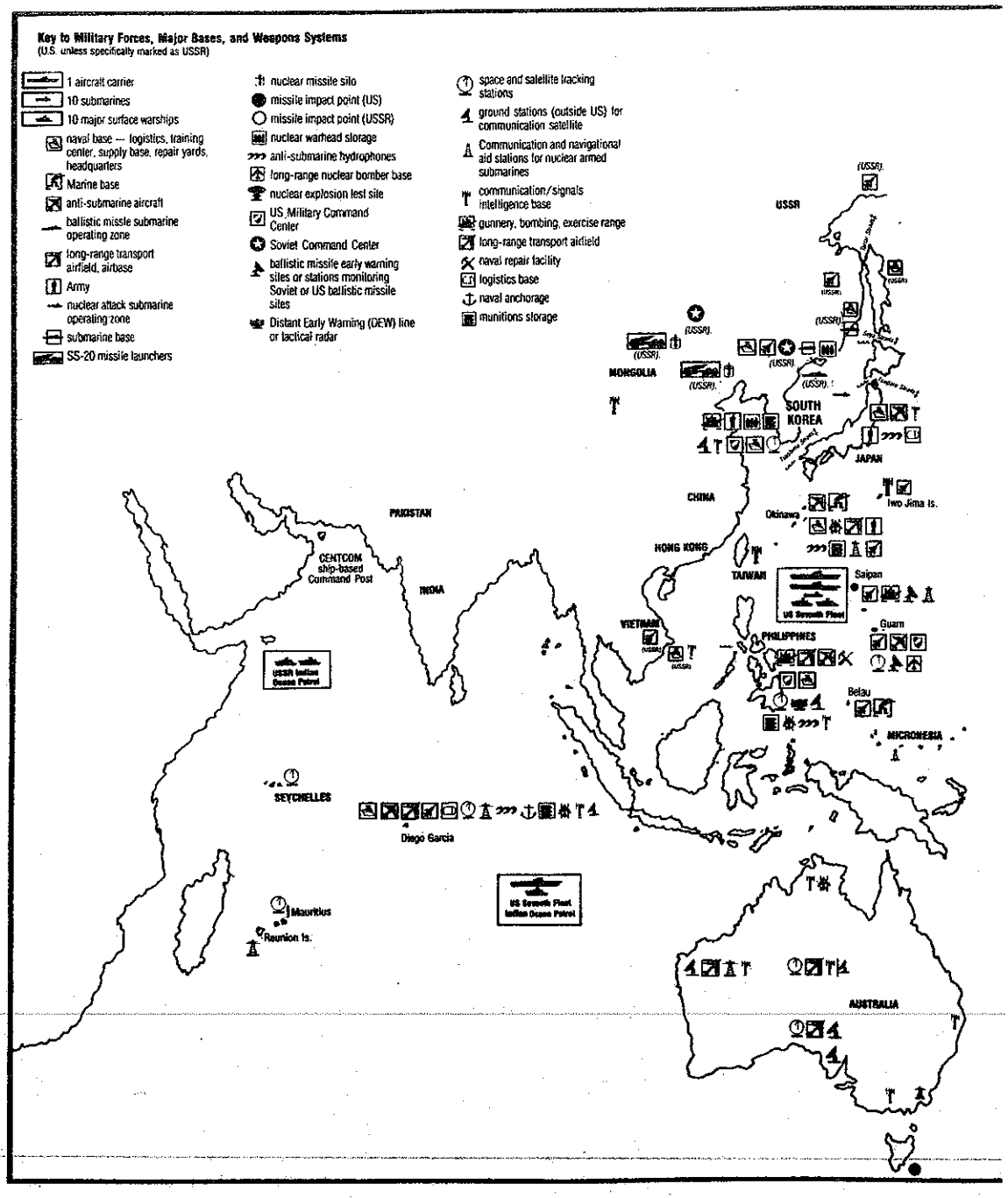
Table 10.2:
Overall Pacific Naval Forces, January 1, 1982

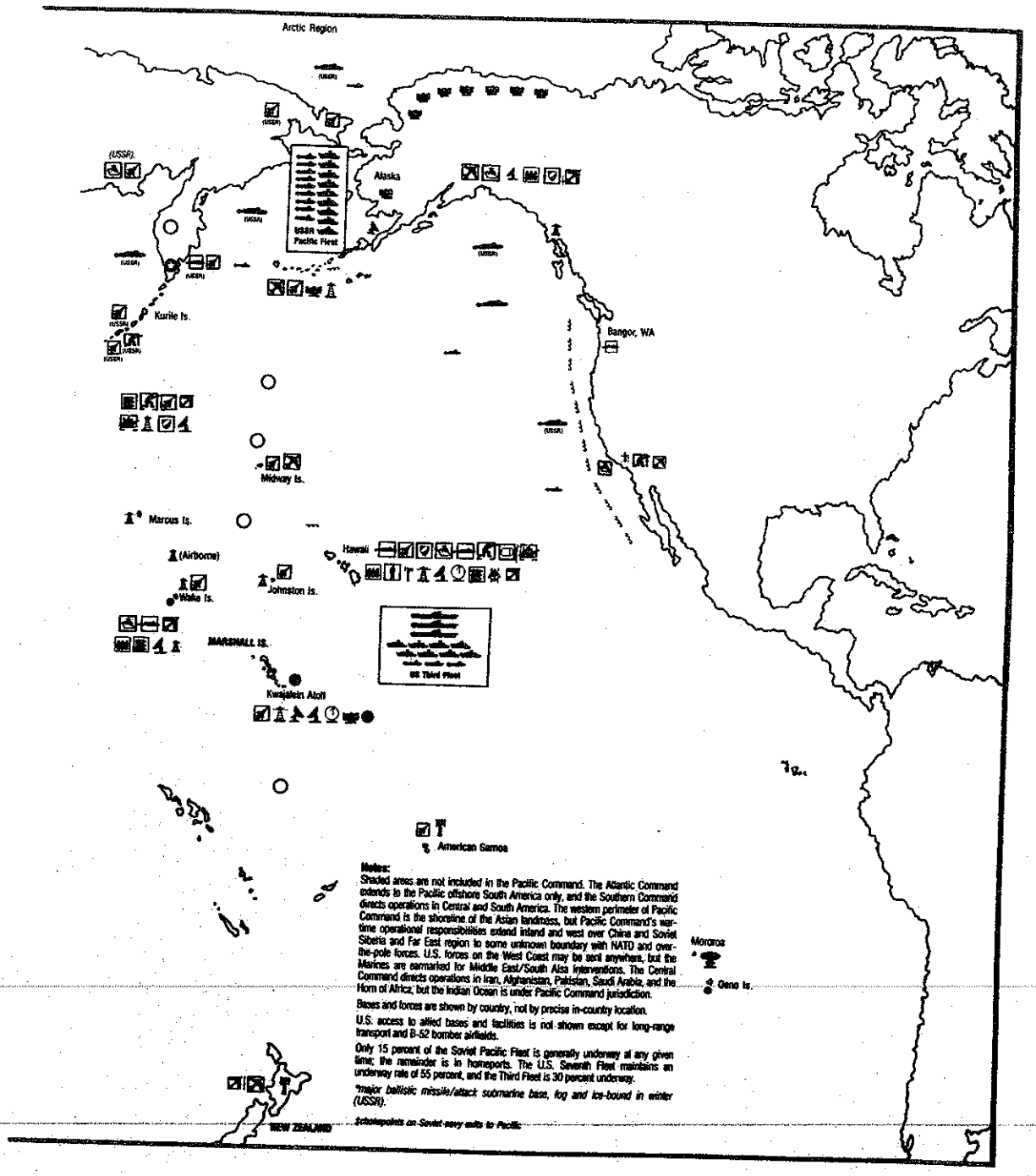
Vessel Type	*Western Pacific*	*Active Fleet Operating Days, 1982*	*Eastern Pacific*	*Active Fleet Operating Days, 1982*	*Totals*
General Purpose Vessels					
Attack Carriers	3		3		6
Helicopter Carriers	1		5		6
Cruisers	5		9		14
Destroyers	13		18		31
Frigates	17		24		41
Subtotals	39	—	59	—	98
Amphibious Units	7	—	24	—	31
Submarines	13	—	34	—	47
Totals	59	216	117	101	176

Note: Active Fleet Operating Days are at sea, and do not include days spent in foreign ports. Foreign port visits would add about 25 per cent to fleet operating days. General Purpose Units: aircraft carriers, destroyers, cruisers, frigates. Not inclusive of logistic support vessels.

Sources: C. Wright, "U.S. Naval Operations in 1982," *Proceedings/Naval Review*, May 1983, p. 53; J. Collins, *U.S./Soviet Military Balance, Statistical Trends, 1970–1982*, Congressional Research Service Report 83-153S, Washington, D.C., August 1, 1983, p. 128.

Map 10.2:
Military Forces, Weapons Systems and Bases in Pacific Command




Arctic Region
(USSR)
Alaska
USSR Pacific Fleet
Kurile Is.
Bangor, WA
Midway Is.
Marcus Is.
(Airborne)
Hawaii
Johnston Is.
Wake Is.
MARSHALL IS.
US Third Fleet
Kwajalein Atoll
American Samoa
Guam
Okino Is.
NEW ZEALAND
Notes:
Shaded areas are not included in the Pacific Command. The Atlantic Command extends to the Pacific offshore South America only, and the Southern Command directs operations in Central and South America. The western perimeter of Pacific Command is the shoreline of the Asian landmass, but Pacific Command's wartime operational responsibilities extend inland and west over China and Soviet Siberia and Far East region to some unknown boundary with NATO and over-the-pole forces. U.S. forces on the West Coast may be sent anywhere, but the Marines are earmarked for Middle East/South Asia interventions. The Central Command directs operations in Iran, Afghanistan, Pakistan, Saudi Arabia, and the Horn of Africa; but the Indian Ocean is under Pacific Command jurisdiction.
Bases and forces are shown by country, not by precise in-country location.
U.S. access to allied bases and facilities is not shown except for long-range transport and B-52 bomber airfields.
Only 15 percent of the Soviet Pacific Fleet is generally underway at any given time; the remainder is in homeports. The U.S. Seventh Fleet maintains an underway rate of 55 percent, and the Third Fleet is 30 percent underway.
*major ballistic missile/attack submarine base, fog and ice-bound in winter (USSR).
Choke points on Soviet navy exits to Pacific

Pacific Fleet fell from 503 to 206 as the Navy opted for a "hi-tech" strategy of ship modernization and the U.S. retreated from intervention after its defeat in Vietnam (see Appendix A3).[18] The loss in numbers prompted a vociferous outcry from the Navy and its supporters, although the Fleet's tonnage declined by only 20 per cent between 1965 and 1981, and ship range and technological sophistication increased dramatically. Furthermore, the number of key capital ships – such as carriers, frigates, and nuclear-powered submarines – stayed the same or even increased.[19] Nonetheless, Navy Secretary John Lehman, Ronald Reagan's appointee, pledged in 1981 to increase the Fleet by a third as part of an overall campaign to build a 600-ship Navy. By early 1984, the Pacific Fleet had grown to 231 warships and will swell to some 300 by the time the Reagan build-up ends in 1988.

The 7th Fleet: Premier Force

The 7th Fleet is a World War II veteran which never came home from the Western Pacific. With air striking power based on three aircraft carriers, the 7th Fleet is the most formidable and versatile fighting arm in the Western Pacific. It is the premier force for asserting "presence" in the practice of coercive diplomacy, and comprises immense punitive power for warfighting. Vice Admiral George Steele's ode to this U.S. armada captures the breadth of Navy operations in the Pacific and Indian Oceans:

> On a given day in the Seventh Fleet, one might find several ships well east of Japan entering or leaving the Seventh Fleet area of responsibility. An anti-submarine warfare exercise is in progress on Tokyo Bay. An aircraft carrier with her cruiser-destroyer screen and a submarine are exercising in the Okinawa operating area, while another carrier task force group is in port in Subic for maintenance. A third carrier task force group is visiting Mombasa, Kenya. An amphibious exercise involving ships and marines of Ready Group Bravo is in progress on the coast of Korea . . . and ship visits are in progress in Hong Kong; Beppu; Japan; Kaohsiung; Taiwan; Manila; Sattahip; Thailand; Singapore; Penang; Malaysia . . . Patrol planes of Task Force 72 are conducting ocean surveillance in the Indian Ocean in support of the carrier task force group there and range along the Asian mainland at a respectful distance on the lookout for unusual happenings . . . British and Australian destroyers are engaged in an

anti-submarine warfare exercise with U.S. destroyers and a submarine in the Subic operating area. Several cruisers and destroyers are making preparations for a missile shoot on the Poro Point Range nearby.[20]

The centerpiece of the 7th Fleet is the gigantic aircraft carrier. In 1984, there were six carriers assigned to the Pacific; on average, three in the Western Pacific, though more are deployed in times of crisis or to conduct exercises. One carrier, currently the *Midway*, is permanently based in the Western Pacific and homeported at Yokosuka, Japan. Task Force 77, which patrols the South China Sea and Indian Ocean, is spearheaded by carriers like the new *Carl Vinson* from the 3rd Fleet.

The 7th Fleet's contemporary carrier task group is a far cry from the weapon system which fought and won in the Pacific in World War II. Instead of the 100 ships, 400 attack aircraft, and heavy anti-aircraft artillery typical of a 1940s carrier task force, the 1980s task group has trimmed down to nine vessels, thirty-six to forty-eight attack aircraft, and sleek missile defenses[21] (see Figure 10.1).

Punitive Power

The aircraft carrier task group is the most flexible and fluid offensive force in the Pacific Fleet. It can be internally reconstituted, temporarily divided, and rapidly shifted. In combat, the group's forces aim to carry out three military missions. First, their fighter planes seek air superiority in the vicinity of the task force itself, extending out to the range of the carrier's aircraft and missiles.* These fighters aim to intercept medium-range bombers, such as Soviet Backfires, which are armed with anti-ship missiles.

The carrier also uses its A6/7 aircraft armed with Harpoon anti-ship missiles to destroy any surface vessels within reach. One Navy report proclaimed of this newest anti-ship missile, "It's simple and reliable, yet versatile and lethal."[23] Third, the carriers seek to eliminate submarines capable of launching cruise missile or torpedo attacks, using an anti-submarine screen of aircraft and ship escorts (see Figure 10.2).

* These are typically F-14 and F-15 fighters, armed with air-to- air missiles. The first operational F-18 wing was deployed on the carrier *Constellation* in the Pacific in 1984.[22]

The carriers have demonstrated the capability to attack targets 2,400 km from the carrier with the A-6 fighter-bomber.[24]

As a massive target continuously advertising itself by electromagnetic emissions, the carrier group must devote much of its power to controlling its own operating environs. Once the task force is secure, the carrier can launch its offensive forces, supplemented by land-based P3C Orion or B-52 aircraft, in tasks such as anti-submarine warfare or mining operations. Alternatively, the carrier delivers aerial strikes to cover amphibious forces landing in foreign territory, or simply pulverizes land targets to display its "punitive power."

These floating, mobile airbases can launch up to three waves of seventeen to twenty-one bombers per day. At this rate, the attack carrier can deliver up to 360 tonnes of high explosives daily.[25] Large carriers such as the U.S.S. *Enterprise* in the Pacific Fleet store 1,800 to 2,300 tonnes of bombs – enough for at least a five-day continuous, all-out attack.[26]

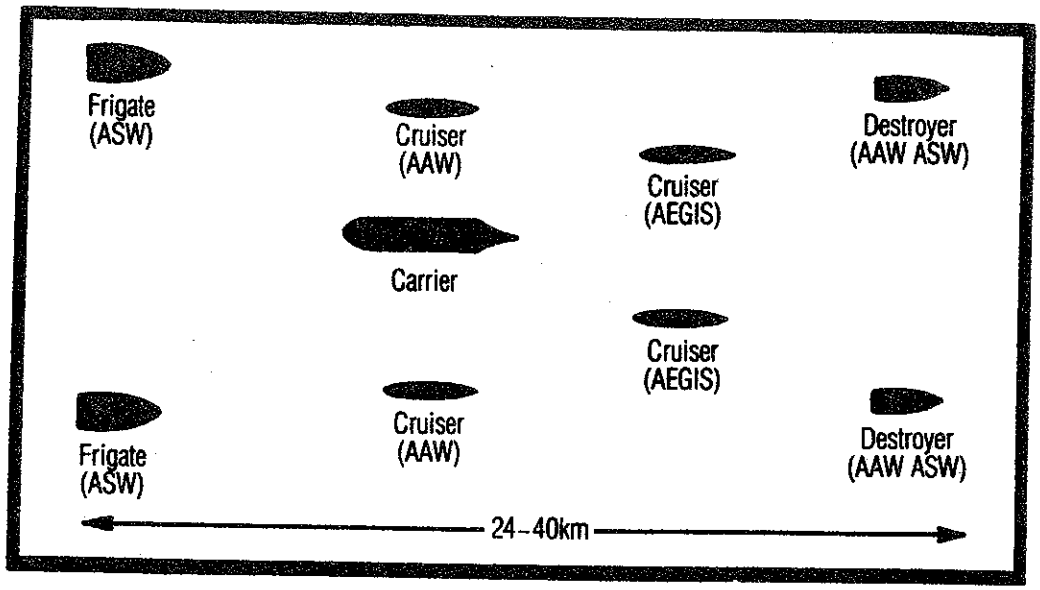
Diesel-powered carriers, such as the Forrestal-class, can cruise only 22,000 km without refueling, at a cruising speed of 37 km per hour (a minimum endurance of twenty-five days; longer if they slow down). Nuclear-powered carriers, by contrast, have practically unlimited endurance and high speed. Depending on the endurance of their escorts, nuclear carriers can hit 61 km per hour for short periods and can reach any part of the Pacific in a matter of days.

Aircraft carriers are floating nuclear weapons storage depots. Carrier strike aircraft are also nuclear capable. An important new complement to carrier airpower is the power-projection capability of the "Surface Action Group" (SAG), recently formed around the recommissioned battleship *New Jersey.** Armed with Tomahawk cruise missiles, this World War II veteran "can take under attack . . . most of the MIG bases in places like North Korea" according to Navy Secretary Lehman, "and punch right through the hangarettes, bunkers, and caves where the real high-priority targets are."†[27]

* The SAG aims to "show the flag" off Third World shores, although it lacks the range, versatility, and sheer power of the aircraft carrier. The *New Jersey* is the first of two battleships assigned to Pacific Fleet. The second will be the *Missouri*.

† These MIGs are supplied by the Soviets, although they are mostly obsolete models.

Figure 10.1:
Hypothetical U.S. Carrier Task Group, 1980s



AAW: Anti-Air Warfare, by short- & medium-range anti-aircraft SAMs and guns
AEGIS: Advanced gun & missile fire control system for wide-area SAMs
ASW: Anti-submarine warfare systems

NOTE: The US Navy began experimenting with combined carrier task groups in the 1980s, combining and extending the escort screen.
Source: S. Deitchman, "Designing the Fleet and its Air Arm," *Astronautics and Aeronautics*, Volume 16, no. 1, November 1978, p. 19.

Table 10.3:
Major U.S. Naval Bases in the Pacific

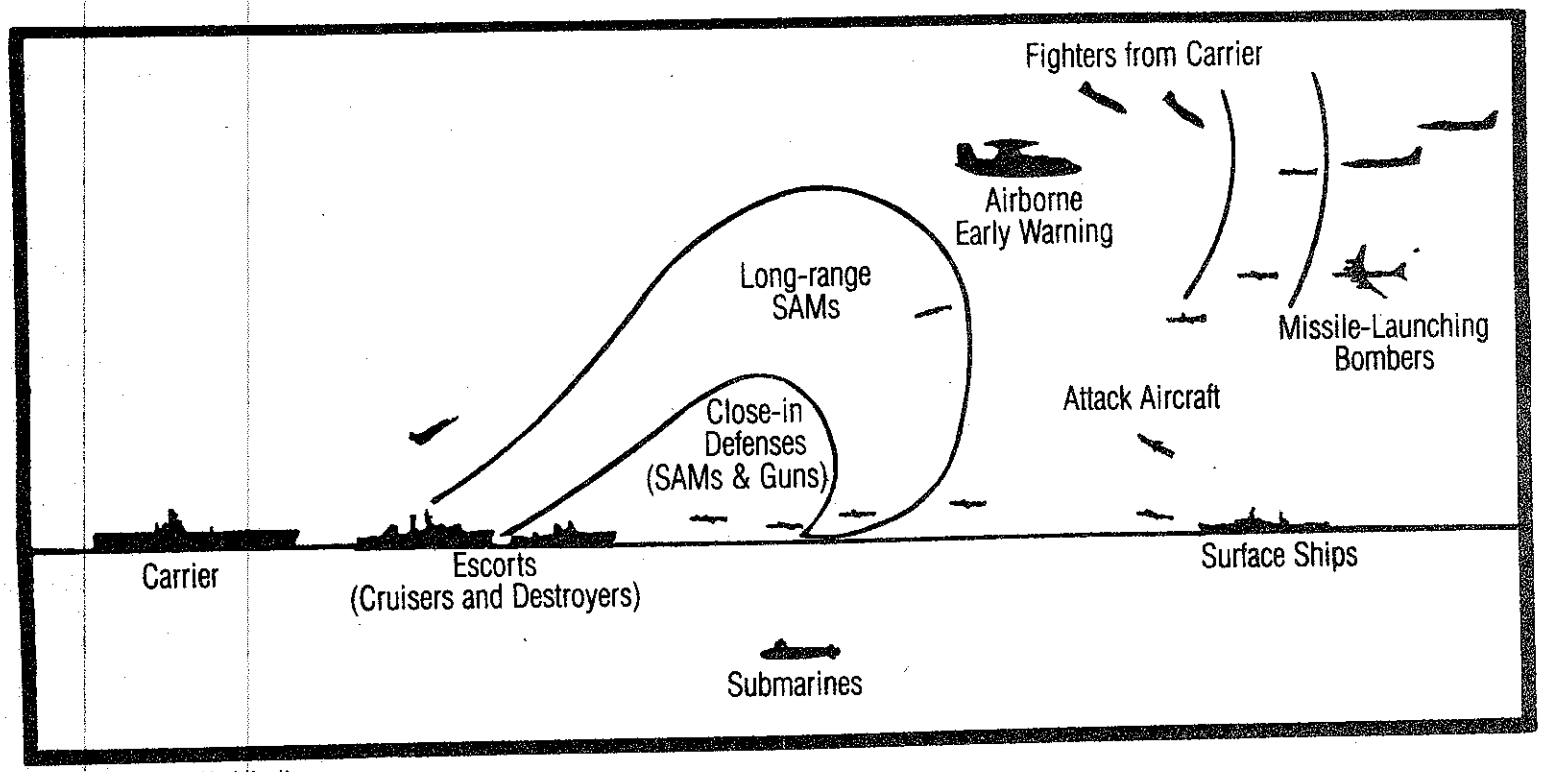
Country/Site	*Main Function*
United States	
San Diego/Alameda, California	Homeport and rear base for Pacific Fleet vessels.
Bangor, Washington	Homeport, Trident missile Ohio submarines.
Pearl Harbor, Hawaii	Homeport for 40–60 surface vessels, logistics, repair, drydocking capability, POL and munition storage, intermediate base for nuclear attack submarines.
Kaho'olawe Island, Hawaii	Naval gunnery and bombing practice.
Barking Sands, California	Torpedo and anti-submarine warfare training, practice.
Midway Island	Limited naval facilities.
Wake Island	Port facilities, POL.
Japan	
Yokosuka	Major U.S. naval base, NW Pacific. Homeports ten 7th Fleet vessels, including carrier *Midway*. Logistics, repair, and drydocking capabilities for 7th Fleet including carriers. Forward port for nuclear attack submarines.
Sasebo	Naval base used jointly with Japanese Navy. Logistics, huge POL and munitions storage, repair and drydocking capabilities. Home and forward port for nuclear attack submarines.

Table 10.3: (cont)

Philippines	
Subic Bay	Operational base for 7th Fleet in SW Pacific, Indian Ocean. Logistics, repair and drydocking capabilities, POL and munitions storage. Forward port for nuclear attack submarines.
Subic Bay/Zambales and Tambones Training Ground	Marine training; 7th Fleet and allied bombing and gunnery practice.
Guam	
Apra Harbor	Naval base for logistics and repairs, forward port for nuclear attack submarines.
Okinawa	
White Beach	7th Fleet forward port.
South Korea	
Chinhae	Navy facilities at Korean naval base.
Diego Garcia	Logistics and forward base.

Key: POL = Petroleum, oil and lubricant storage.
Note: Pacific Fleet vessels have access to facilities in many other points in allied territory such as Australia, Singapore, Alaska, Somalia, etc., for logistics, repair, and rest and recreation, but these are not under CINCPAC control. CINCPAC does not control the bases on the U.S. West Coast. U.S. "use rights" in the North Mariana Islands and possibly Belau are not listed; nor are Naval Air Stations.
Source: O. Wilkes, Foreign Military Bases Project, SIPRI, 1983.

Figure 10.2:
Air Defense of U.S. Carrier Task Group



SAM: Surface-to-Air Missile.
Source: S. Deitchman, as in Figure 10.1 p. 22.

Bases and Naval Power

Bases are essential to the quick deployment of naval power. Whether forward, intermediate or rear area facilities, all bases in the Pacific and Indian Oceans are components of a tightly integrated naval defense system. The island of Diego Garcia, for example, is regarded as an advance base for the 7th Fleet's high-risk operations in the Indian Ocean and Southwest Asia. Eight thousand km away in the Philippines, Subic Bay provides supply and maintenance services for Carrier Task Force 77, the 7th Fleet's Indian Ocean operation. Subic, in other words, is the intermediate base which links naval operations on the advance base at Diego Garcia with the rear bases at Yokosuka in Japan and CINCPAC headquarters in Honolulu (see Table 10.3).*

Serving as mobile forward bases, aircraft carriers can eliminate the Navy's *logistical* need for bases on foreign soil.† Indeed, when supplied by intermediate bases, carriers are capable of operating from Hawaii or mainland U.S.[28] But the bases in the Pacific and Indian Oceans are convenient and cheap, and they enhance the Navy's overall capability by providing supplementary land-based support for escort vessels.

Marines: The Amphibious Threat

While the Navy rules the seas, Marines are the spearhead of U.S. intervention in Asia–Pacific. Indeed, the region has loomed so large in Marine Corps history that their unofficial slogan is: "We train for the Atlantic but we fight for the Pacific."[29] Immediately after World War II, 53,000 Marines were deployed in north China for nearly two years in an attempt to prevent the Red Army from controlling the area. Marine divisions were the cutting edge of U.S. interventions in Korea in 1950–1953 and Vietnam from 1965 to 1973.

* To support operations in the Indian Ocean, carrier aircraft also fly out of airfields in Atsugi (Japan) and Cubi Pt. (Philippines), and receive mid-air refuelling *en route* to Diego Garcia.

† Because bases also serve important political functions in maintaining U.S. military alliances, they are not disposed of when they become technologically obsolescent.

In the late 1970s, the Marines suffered acute career anxiety when the U.S. pulled back from an interventionist posture under President Carter (see Chapter 7). Their traditional role restored under the Reagan administrations's aggressive foreign policy, the Marines are again in the forefront of a reinvigorated U.S. rapid response force. Beyond intervention, they are also ready, according to Admiral Watkins, to "conduct credible offensive operations against territory on the perimeter of the U.S.S.R., especially in the Far East."* [30]

The 32,000 Marines currently in the Pacific[31] serve as shock troops for the carrier task forces. The main technique of marine fighting is the amphibious attack.† After offloading from a Navy carrier task force onto landing craft, Marines storm the shore under naval air cover. The III Marine Amphibious Force (MAF) (see Appendix A4) at Okinawa prepares for such amphibious assaults in the Far East (especially Korea) and reinforces U.S. forces in Southwest Asia. One unit of the III MAF, consisting of 800 Marines, is kept afloat in the Indian Ocean with the 7th Fleet, and a Brigade of Marines operates from Hawaii.‡[35] Marines are also moved into the West Pacific and Indian Ocean from the U.S. mainland via a regular series of exercises in Hawaii, Guam, and Okinawa.[36]

Deployment of a Marine Amphibious Unit is no small affair, and usually requires five to seven amphibious warships, two to three helicopter-capable amphibious assault ships, up to two dock landing craft, one to two tank landing craft, and perhaps one amphibious cargo ship[37] to lift troops, landing craft, tanks and vehicles, and helicopters to the shores of intervention. While the Pacific Fleet has thirty-one amphibious warfare ships, only five are devoted to non-amphibious warfare

* These operations would likely aim to wrest control of the Kurile Islands from the Soviets, a move which would allow U.S. attack submarines to enter the sea of Okhotsk or to interdict supply of the crucial Soviet base at Petropavlosk.

† The technique was refined in the assault on Tarawa in 1943, and perfected in the 1945 attack which epitomizes Marine operations, Iwo Jima.[32]

‡ The 7th Marine Amphibious Brigade based in California is intended to join up with pre-positioned equipment at Diego Garcia for military expeditions in South Asia.[33] As of February 1985, a second Marine Amphibious Unit was deployed into the West Pacific from California to support the Marine Amphibious Force in Okinawa.[34]

tasks, and only six are amphibious lift vessels[38] – shortcomings that might delay the arrival of *all* marine forces up to a month.*[39]

With about 60 fighter aircraft and helicopters stationed at Okinawa and Iwakuni in Japan, and an Air Wing at Hawaii, the Marines maintain sufficient airpower for their own close, land-based support operations.[40] Unless an airfield is available close to the site of the attack, however, the Marines in the Pacific are dependent on the good graces of the Navy to support the Marine's carrier-launch vertical take-off strike.

Faced with the spectre of obsolescence after the atomic attacks at the end of World War II, the Marines quickly developed helicopters to outflank a hypothetical nuclear assault on an amphibious invasion force by whisking the Marines to the shore over the waves.[41] Heavy-lift and close-support helicopter gunships are now integral weapons in the Marine arsenal. Once the Marines in the Pacific obtain vertical lift aircraft and new air-capable amphibious assault ships,† they will finally have wrested control of their close air-support mission from the Navy.

Combined with the mobile amphibious assault fleet and carrier operations, Marine bases provide flexible staging points for land assaults throughout the Pacific (see Appendix A4). Marine offensive capability on the Asian periphery would be greatly reduced without these forward bases. Operating together, the Navy's carrier and the Marines' amphibious assault task forces project formidable military power against a land-based opponent.

The Navy often displays these two forces to communicate the threat of intervention. On twenty-six separate occasions between 1955 and 1975, the Navy sent warships to protect U.S. interests in East Asia and the Indian Ocean.[42] Naval supremacists, such as Reagan's former Assistant Defense Secretary Bing West, extoll the flexibility of naval power in serving a trinity of strategic goals – deterrence, alliance building, and intervention. While surface escorts are most effective in "peacetime" and in a superpower confrontation, amphibious forces are deemed useful for intervention and showing the flag. Like the aircraft carriers, however, Marines project the threat of nuclear war. They fly

* Unless an aerial beachhead war was already in hand, so that an airlift could fly in the Marines.

† Currently in the Atlantic Fleet only.

nuclear-capable aircraft and are equipped to fire nuclear artillery and atomic demolition mines.

Air Force: Threat from the Sky

The independent Air Force was born in the Pacific Theatre during World War II. Precursor of the post-war service, the U.S. Army's 20th Air Force was created "to transcend theater air operations" and carry out the strategic bombing of Japan. According to military historian John Schlight:

> A more descriptive name of this unusual organization – a name that had, in fact been suggested for it at one point – would have been the Joint Chiefs of Staff Air Force. Based first in Washington and later moved to Guam as the Pacific war progressed, it was run by the Joint Chiefs through their agent, General [Hap] Arnold. The Twentieth Air Force directed the strategic air war against Japan over the heads of Nimitz, MacArthur, and Stilwell. For the first time in American aviation history, the terms airpower and Air Force had become synonymous and the post-war air leaders meant to keep it that way.[43]

Following the war, the new Air Force moved quickly to consolidate its position as the main American strike force. Believing that the next war would be nuclear, the Air Force "essentially deprived itself of a conventional capability" during the 1950s, removing "the bomb shackles for carrying conventional bombs."[44] During the Vietnam War, they were again installed when Presidents Johnson and Nixon ordered the Air Force to carry out massive conventional bombing.

Today land-based aircraft in the Western Pacific provide tactical support for Army and Marine Infantry, the Navy offshore, and strategic bombing of land targets. To these ends, the Pacific Air Force currently fields 216 fighters in the Western Pacific (excluding Alaska) from airfields in Korea, Japan, the Philippines, and Okinawa (see Table 10.4). Two squadrons of F-16 fighters at Misawa, Japan, will be deployed early in 1985, increasing U.S. tactical airpower in the West Pacific to 264 fighters. With refuelling, the Pacific Air Force is able to reach the whole of Pacific Command's region (see Map 10.3). Virtually all these strike aircraft can be quickly equipped to drop nuclear bombs stored in Guam, Alaska, or Hawaii.

While the Marines and Navy operate to *extend* the boundaries of the U.S. sphere of influence, the Pacific Air Force acts to *consolidate* it. After the Marines or Army have occupied a nation, Air Force fighters are designed to attack targets such as tanks in the immediate battle zone close to U.S. forces. Striking deep into rear areas against transport chokepoints or massed reinforcements, F-14 and F-16 fighters may break up an attack or buy time for U.S. reinforcements to arrive from aircraft carriers, intermediate bases, or the U.S. In intensely defended sites, the U.S. may use air or sea-launched conventional land-attack cruise missiles to destroy valuable immobile targets.[45]

The second major Air Force role in support of U.S. forward deployment is long-range bombing. The 3rd Air Division keeps twenty Strategic Air Command* B-52G bombers at Anderson Air Force Base in Guam. In the Korean War, SAC strategic B-29 bombers dropped 151,000 tonnes of bombs on Korea.[47] They were finally grounded for lack of suitable standing targets anywhere in north Korea! SAC B-52s, deployed at Guam in 1965 and later at U Tapao AFB in Thailand, bombed Vietnam with similar ferocity.†[49]

After concentrating on nuclear capability in the 1950s, SAC was ill prepared for a conventional mission, especially one involving jungle warfare, and its first B-52 bombing raid over Vietnam in 1965 was a fiasco. There was no evidence of a single Vietnamese casualty and two B-52s were destroyed in a mid-air collision. The press likened the use of the mammoth, nuclear-capable B-52s against the Vietnamese to "swatting flies with a sledgehammer."[50] Despite these early failures, more than 3,000 B-52 bombing missions were flown over Vietnam in 1968.[51] During the Christmas bombings of December 1972, B-52s delivered nearly 14,000 tonnes of bombs in only eleven days.

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* Strategic Air Command forces deployed in the Pacific fall under the operational authority of the Air Force representative to the Joint Chiefs of Staff and the Secretary of the Air Force at all times. They do not fall under the authority of the Pacific Air Force, which is subordinate to CINCPAC, even when engaged on crucial missions requested by CINCPAC. SAC also provides aerial refuelling support to CINCPAC and SAC aircraft in Pacific Command from KC-135 Stratotankers and KC-10A Extender aircraft.[46]

† B-52s also deploy widely via allied airfields or direct to Diego Garcia. As of 1982, Diego Garcia could only accommodate B-52s landing without bombloads.[48] Bombs could be loaded onto the planes, however, for missions over the littoral area of the Indian Ocean.

Table 10.4:
U.S. Tactical Land-based Airpower in the West Pacific

Forces	*Air Bases (AB)*
Korea	
2 squadrons/48 F-16	
2 squadrons/24 F-4	
1 squadron /24 A-10	
Total: 5 squadrons, 96 fighters	
51st Tactical Airwing, 314th Air Division	Osan AB [a]
8th AF Tactical Fighter Wing	Kunsan AB [a]
497th Tactical Fighter Squadron	Taegu AB [a]
25th Tactical Fighter Squadron	Suwon AB
	+ 16 airfields, 2 gunnery ranges
Japan	
2 squadrons/48 F-16	
6112th Air Base Wing[b]	Misawa AB
HQ USAF 5th AF,[c] 475th Air Base Wing	Yokota AB
6171st Air Base Squadron	Kwang Ju Air Base
	Use of or use rights at 3 airfields
Okinawa	
18th Tactical Fighter Wing	
313th Air Division	Kadena AB
3 squadrons/72 F-15	
1 R-F4 tactical reconnaissance	

Table 10.4: (cont)

Philippines	
3rd Tactical Fighter Wing	
2 squadrons/48 F-4	Clark AB
1 squadron/10 F-5, 4 T-38	Crow Valley Gunnery Range
Alaska[d]	
Tactical Fighter Squadron	Elmendorf AB
Tactical Fighter Squadron	Eielson AB

Notes: a. Planes rotate to Osan, Kunsan, and Taegu from Kadena in Okinawa in Japan.
b. Deployment of 48 F-16s projected for early 1985.
c. The Japanese Air Self-Defense Force has primary responsibility for air defense of Japan. USAF Japan-based fighters were withdrawn to Okinawa.
d. Not under CINCPAC's operational control.
Sources: J. Collins, *U.S./Soviet Military Balance, Statistical Trends, 1970–1982*, Congressional Research Service Report 83-153S, Washington, D.C., August 1, 1983, pp. 128–130; O. Wilkes, Foreign Military Bases Project, SIPRI, 1983; *New Straits Times*, August 24, 1983, p. 15; *Air Force Magazine*, May 1983, pp. 94–95; U.S. Air Force, Office of Public Affairs, January 15, 1985.

Regiment garrisoned Tientsin for twenty-five years as a symbol of U.S. determination to "protect" its interests in China.

After World War II, U.S. Army occupation forces were the pillars of military governments in Japan under General Douglas MacArthur and in Korea under John Hodge. As in the Philippines in the early 1900s, Army-based governments in these two countries shaped local power structures, imposed democratic reforms, repressed nationalistic opposition, and left the government in the hands of conservative elites.[55]

Today approximately 33,000 U.S. 8th Army 2nd Infantry Division forces remain in south Korea's Demilitarized Zone (DMZ) (see Appendix A5).* This garrison grew out of the crushing defeat of the Korean People's Republic between 1945 and 1947 and the footslogging stalemate in the Korean War between 1950 and 1953.[59] Reflecting the high level of tension along this "trip wire", the Army units at the DMZ are on 24-hour war-status.

With south Korean and U.S. Army troops facing hostile north Koreans, the DMZ is a powderkeg. Local incidents in the area, such as a Soviet tourist guide's run across the zone in late 1984, spark lethal firefights which could easily escalate. In this incident, north Korean guards, in violation of the rules, chased the defector into the south Korean area, some firing automatic rifles. Four soldiers, three north and one south Korean, were killed, and one American soldier was wounded.[60]

Such incidents could easily spark a wider conflict in a site where the U.S. Army maintains nuclear artillery, and can call upon air-dropped nuclear weapons, atomic demolition mines, and a panoply of naval nuclear weapons (see Chapter 12).

Irregular Warfare

A new form of power projection – irregular warfare – has become part of the American arsenal in the last four decades. Irregular warfare takes many forms: covert operations to destabilize a weak, unfriendly gov-

* Backed up by the 19,000-strong "Tropic Lightning" Division in Hawaii which forms a "vital part of all the Pacific OPLANS [Operational Plans]", according to a 1984 Congressional Staff report.[56] It is ready for action anywhere in Pacific Command,[57] and is earmarked to become a rapidly deployable, light infantry division by 1986.[58]

ernment; psychological warfare against revolutionary states to sap their morale; and counterinsurgency designed to strengthen local armed forces against revolutionary insurgents.

The Central Intelligence Agency (CIA) is the practitioner *par excellence* of irregular warfare with decades of experience throughout the Asia-Pacific region*. To support its operations on the Asian mainland in the 1950s and 1960s, the Agency maintained a number of facilities in the offshore island chain. A secret memo by CIA operative Edward Lansdale in 1961 details some of these. In Manila, jointly with the Philippine government, the CIA ran the Security Training Center – a "counter-subversion, counterguerilla, and psychological warfare school." [63] Other Western Pacific CIA bases† were located in Okinawa and in Saipan, where a training center for CIA operatives and their recruits functioned under the cover of the "Naval Technical Training Unit." In Taiwan, the CIA maintained the headquarters and maintenance facilities of Civil Air Transport, a body which "provides air logistical support under commercial cover to most CIA and other U.S. Government Agencies' requirements." [65]

With its close ties to the United States, the Philippines is the favorite rear base for CIA operatives throughout Southeast Asia and is rumored to be its regional communications headquarters. Honolulu is another hub of agency activity directed at Asia and the Pacific, as revealed in a recent case involving a corporate executive named Ron Rewald. In sensational revelations in mid-1984, a CIA-front company called BBRDW Inc. was exposed in bankruptcy proceedings as a conduit for

* The CIA found it difficult to "break into" the Korean War due to MacArthur's dislike of clandestine military operatives.[61] In 1953, the Central Intelligence Group attached to U.S. forces during the 1950–1953 war period was assigned to the U.S. 8th Army, whereupon it trained commandos to infiltrate and sabotage north Korea on a small island southwest of Seoul. Shortly after the 1953 ceasefire, guards at the CIA site mistakenly opened fire on south Korean President Rhee, out for a boating trip. Rhee expelled the CIA, who kept only a covert presence in south Korea until the CIA station was formally reopened in 1959.[62] It finally came into its own in Korea when the Korean CIA was established in 1961.

† A CIA base such as that at Okinawa is defined in the *Pentagon Papers* as "a self-contained base under Army cover with facilities of all types necessary to the storage, testing, packaging, procurement and delivery of supplies – ranging from weapons and explosives to medical goods and clothing." [64]

Psychological Operations

Psychological Operations (PSYOPs) in the Pacific are a little-known but significant variant of irregular warfare operations. A form of ideological warfare, PSYOPs were "discovered" by a Congressional Committee in 1970 when it was revealed that the Army's 7th PSYOP Group was operating at Okinawa under CINCPAC control. A typical PSYOP involves the broadcast over the Voice of U.N. Command in south Korea of a strident anti-north Korea line "harder" than the State Department's Voice of America.[77]

The U.S. Navy also maintains a PSYOPs presence in the Pacific. Naval PSYOPs attempt to sway attitudes through a variety of media and intelligence systems. The Navy classifies sources in PSYOPs as White (acknowledged, overt source), Grey (indeterminate source), or Black (false, attributed source). A Navy manual notes that "Demonstrations of power by naval forces may be considered an implicit means of delivering a PSYOP message." "Strategically," states the Navy, "PSYOP may be appropriate to increase the willingness of foreign nations to provide facilities which support U.S. naval operations, to reduce their willingness to support the naval operations of potentially hostile powers, and to retaliate for foreign actions that adversely affect or interface with naval operations." [78]

As a Congressional investigator discovered, balloons and bombs full of pamphlets, radio broadcasts, even secret soap are enlisted in Pacific PSYOPs:

Mr. Pincus: We were discussing the 7th Psyops program in Thailand. One of the programs we were told about was a Thai soap which was brought into Thailand that was made in Taiwan, and apparently as you wash yourself with it at each level there is a new message. They pass it out in the hinterlands. We were told that the 7th Psyops had provided about 10,000 bars of this soap in Thailand.

Senator Symington: What does this soap do?

Mr. Pincus: As the soap washes down there is a new message with each layer of soap.

Senator Symington: I see.

Mr. Pincus: And apparently they are made on Taiwan and very successful. I do not know what the message is. It is probably a secret message.[79]

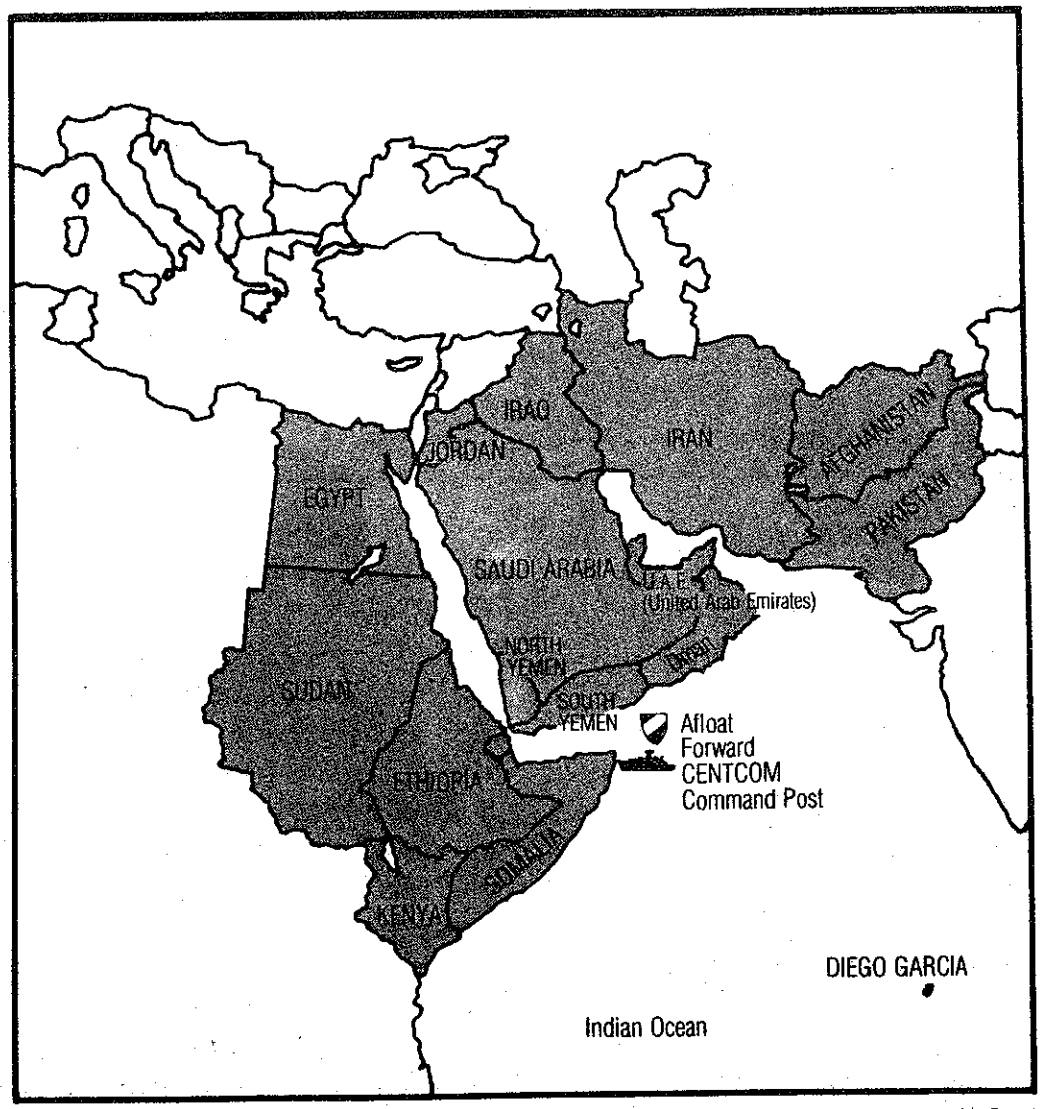
Of course, the presence of nuclear weapons in Pacific Command is a continuous PSYOP aimed at American enemies and allies (see Chapter 18). On occasion, the U.S. may broadcast the presence of nuclear weapons to immediately affect a local conflict involving U.S. forces. In 1958, for example, the U.S. introduced nuclear-capable missiles in Taiwan to intimidate China. But nuclear weapons are so widespread in the Pacific arsenal as to introduce an element of nuclear threat wherever U.S. forces are found. The latest additions to the ever-growing nuclear arsenal, such as the Tomahawk, underscore this omnipresent, latent nuclear component of Pacific Command's power projection.

Hit-and-run Force

Each of the regular and irregular forces in the Pacific arsenal has been developed for specialized missions. As U.S. strength in the Middle East crumbled in 1978 with the fall of the Shah, the U.S. drew on its combined military capabilities to form a unified Rapid Deployment Force (RDF).[80] Initially subordinate to the Readiness Command, the unique, mobile multi-service force was upgraded and renamed Central Command or CENTCOM in 1983, reporting directly to the Secretary of Defense through the Joint Chiefs of Staff (see Map 10.4).[81]

Although the Marines are CINCPAC's traditional "brush-fire" brigade, they are not effective in the Middle East. To intervene on land in such a distant area where the U.S. has few local support bases requires a special combination of air and sea-lift, army-air and marine beach-storming forces, and heavy and light armor.[82] Drawn from existing units, especially from the California-based Marine Amphibious Force I, the RDF *increases* Pacific Command forces only when it is assigned to CINCPAC (see Appendix A6). On the other hand, CENTCOM action outside the Pacific may call on and draw down Pacific Command forces in a crisis, as happened when Air Force Special Forces from Okinawa were used to rescue American hostages in Iran in 1979. The new approach, in short, may have sharpened the U.S. spear at the point of intervention, but it has also dramatically increased CINCPAC's range of potential interventions and thereby contributed to the over-extension of Pacific Command forces.

Map 10.4:
CENTCOM Area of Responsibility



Source: U.S. House of Representatives, Committee on Armed Services, *Department of Defense Authorization for Fiscal Year 1985* (Hearings), Washington, D.C., 1984, Part 2, p. 1217.

Nuts and Bolts of War

In nuclear as in conventional war, logistics – the science of supply – dictates the choice of tactics and strategy to combat commanders. The Pacific Command's forces demand goods and supporting services such as logistics, storage, repairs, weapons testing, and environmental research.* "Logisticians" provide the nuts and bolts of war, organizing the massive supply flows to sustain forward deployed forces. As an invisible hand behind the exercise of military power, logisticians provide the sinews of war and determine the limits of military operations.

Logisticians from the Military Airlift Command and Military Sealift Command face a daunting task. They have to cover 14,000–17,000 km of sea and airlift supply pipelines in the Pacific,† a task further complicated by the unconventional nature of Asian wars. The Vietnam War typifies the problems with modern interventions. Small, isolated combat units were spread over a constantly changing war zone with no secure ports or depots available to military suppliers.[83] Moreover, the fantastic array and complexity of U.S. weapon systems strained the supply systems to the point of collapse.[84]

At the U.S. logistic frontier in Diego Garcia, a pre-positioned fleet of ships full of tanks, water and ammunition awaits a war to erupt in the Indian Ocean region.[85] Working from Guam and Okinawa, the fulcrum of Pacific logistics, the Military Sealift Command (MSC) and Military Airlift Command (MAC) will maintain the flow of supplies to forward bases in any future intervention zone (see Appendix A7). In a war involving Diego Garcia, U.S. bases in the Philippines, rather than those

* For reasons of space, we have not detailed environmental research conducted by or for the military in the Pacific. Such research, including climatic, meteorological conditions, disease vectors, wear and tear, atmospheric conditions, geographical data, space observation, anthropological and socio-cultural research, etc., is crucial to warplanning, equipment design, and training. In Antarctica, for example, the U.S. conducts research into the effects of auroras on the ionosphere directly relevant to the study of disruption of communications in nuclear war. Much environmental research is conducted by apparently non-military scientific bodies such as the Smithsonian Institution in Washington, D.C. Omission here is not intended to slight the importance of these support activities.

† Logistic pipelines are measured to *and* from the war zone.

on the U.S. West Coast, will serve as the key logistics depot for supply of the warzone.

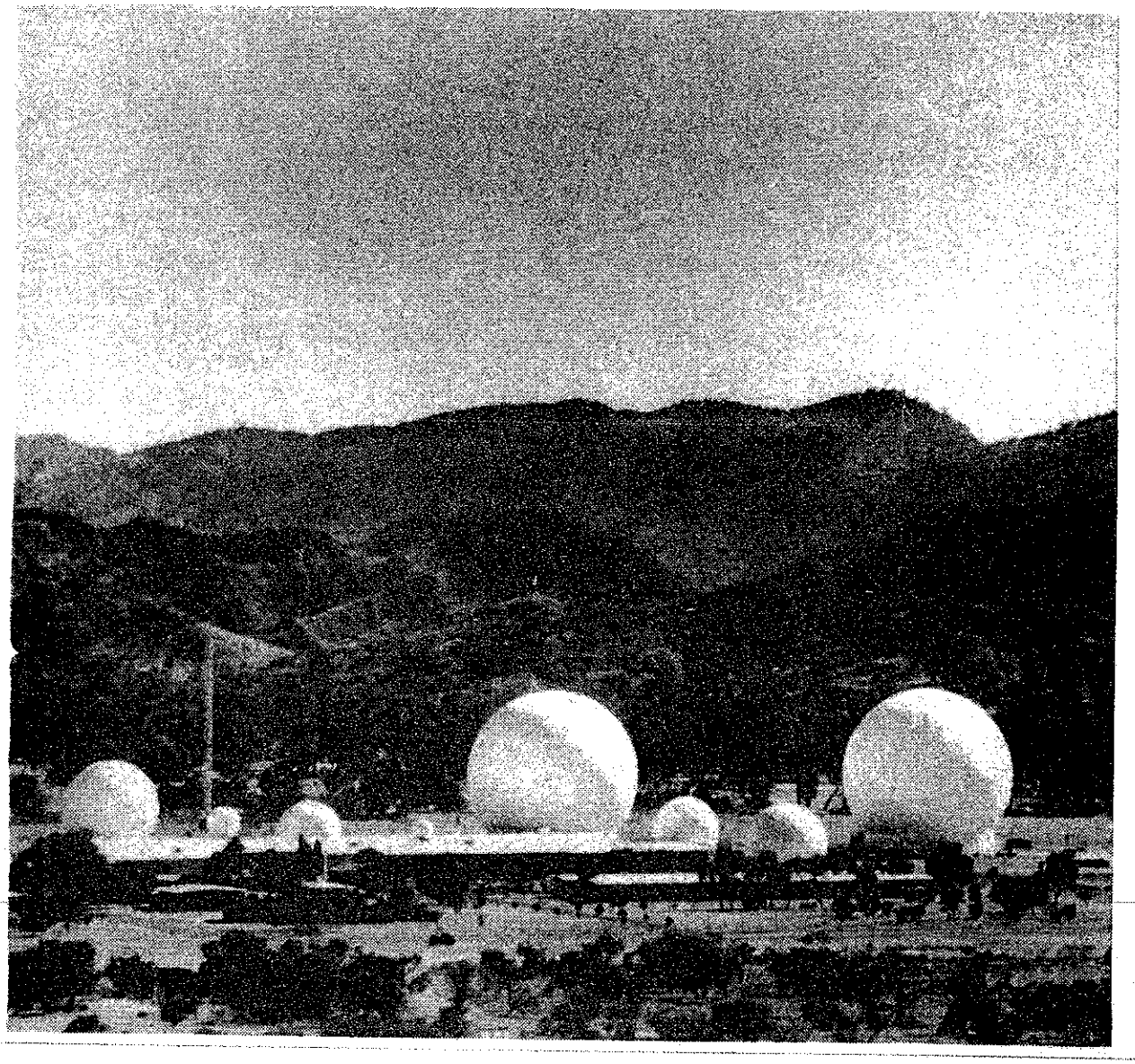
Naval warfare in Pacific Command uses two pipelines to maintain ships in the combat zone. Operating from a shore base to supply a carrier task group, the Underway Replenishment Group (URG) remains at sea for up to ninety days. The second system inserts a floating naval base called a Mobile Support Group (MSG), between the shore base and the URG, thereby lengthening the supply pipeline.[86]

A "half" war like Vietnam consumed huge quantities of supplies. In 1968, U.S. forces used 44 million barrels of oil and over 1 million tonnes of ammunition alone.[87] Whether U.S. Pacific logisticians can supply similar volumes over greater distances without collapsing into chaos is doubtful. As late as 1984, CINCPAC strategists had reportedly not even calculated the basic lift requirements for supply across Pacific Command's vast distances.[88]

To sustain a carrier task force at war in the Indian Ocean will be quite difficult, requiring two URGs resupplied at Subic Bay.*[89] Three carrier task groups fighting in the Western Pacific and Indian Ocean would require up to nine URGs to support the 7,600 km pipeline. If, as proposed by Navy Secretary John Lehman, *fifteen* carrier task groups fight a long-distance, global war simultaneously with the Soviet Union, they will wallow helplessly in the ocean since there are simply not enough URGs to supply them. Faced with the prospect of their carriers floating for days and perhaps weeks without supplies, they might be forced to escalate rapidly to nuclear warfare to end the war quickly.

* At a modest four days operations between replenishment visits.

The Joint Defence Facility, Pine Gap, Northern Territory, Australia
(Department of Defence, Canberra)



ELEVEN ☆
THE INVISIBLE ARSENAL

If you want to screw up the other fellow, find out how he functions and focus on the weaknesses.

—Former Vice-Admiral David Richardson, 1981[1]

The vast intelligence and communications network which spans the Pacific is the brain and nervous system of America's nuclear and conventional arsenal. Without command/control and communications/intelligence facilities (C^3I) U.S. forces would be deaf, mute, and blind. By keeping commanders well informed and reliably coupling their decisions to military hardware, communications and intelligence improve the destructive performance of weapons systems. "Responsive and reliable command, control, communications and intelligence as a force multiplier," stated General Joseph Palastra in 1982, "is not a buzzword for us – it is a fact of life."[2]

Communications Architecture

Whether in nuclear or conventional warfare, combat forces must exchange information with CINCPAC (Commander-in-Chief Pacific) in Honolulu, as well as communicate with each other to coordinate battlefield movements. Once issued, commands have to reach the fighting forces secure and ungarbled. To facilitate these needs, Pentagon wizards have erected an invisible architecture of communications

which stretches across the Pacific. Transiting on earth-orbit satellites, the information infrastructure bounces its messages around the earth off the upper atmosphere and beyond like an inverted ping pong table.

Pacific Command's invisible microwave architecture serves the most dispersed and diverse set of forces in the history of warfare. Information specialists have to maintain connections across the vastness of the Pacific; keep occupying forces in touch with each other; and direct the tactical operations of the Pacific-based fleet and aircraft. All this military chatter generates gigantic mountains of information, moved via Automatic Data Processing Centers.[3] In addition to the enormous routine flows, specialized networks have sprung up to serve senior military like the Commander-in-Chief Pacific, or to control important weapons like nuclear bombs.

The basic building blocks of the communication system are radio waves and submarine cables. Each contributes to the communications arsenal by complementing or substituting for an option which faces severe obstacles. Submarine cables, for example, are highly reliable but immobile. Radio waves vary widely in capability depending on time, frequency and power of radiation, but offer unique capabilities for broadcast to diffuse, multiple receivers. Lower frequency radio waves can penetrate air and water over great ranges, but have very low transmission rates. Higher frequency radio waves typically trade range for transmission rate, a shortcoming which has been overcome by the use of satellites. Typically, both media are used to transmit information: automatic and manual switching devices aboard earth- or satellite-based relay points convert the transiting message from one to another.

The great distances involved make the possibility of communication across the Pacific an art as well as a science. For example, in the 14,000 km stretch between Diego Garcia in the Indian Ocean to CINCPAC in Hawaii, signals officers have to probe the atmosphere or plumb the oceans to lodge the home message to its intended receiver – without losing it in the vastness of atmosphere, ocean, or space. In ordinary circumstances, that is, when sunspots or nuclear war do not interfere with the atmosphere, a determined specialist working with receivers, relay sites or ground stations can usually connect headquarters to scattered field forces (see Appendixes A8 and D).

The Defense Communications Agency (DCA), a global functional

command headquartered in Washington, D.C., coordinates all information systems in the Pacific Command. From its Area Communication Operation Center in Hawaii and from field offices across the Pacific, the DCA provides centralized control to ensure that the services' separate systems interface and operate jointly. In addition to providing regional centralization, DCA integrates Pacific Command communications systems into the global Defense Communications System.[4]

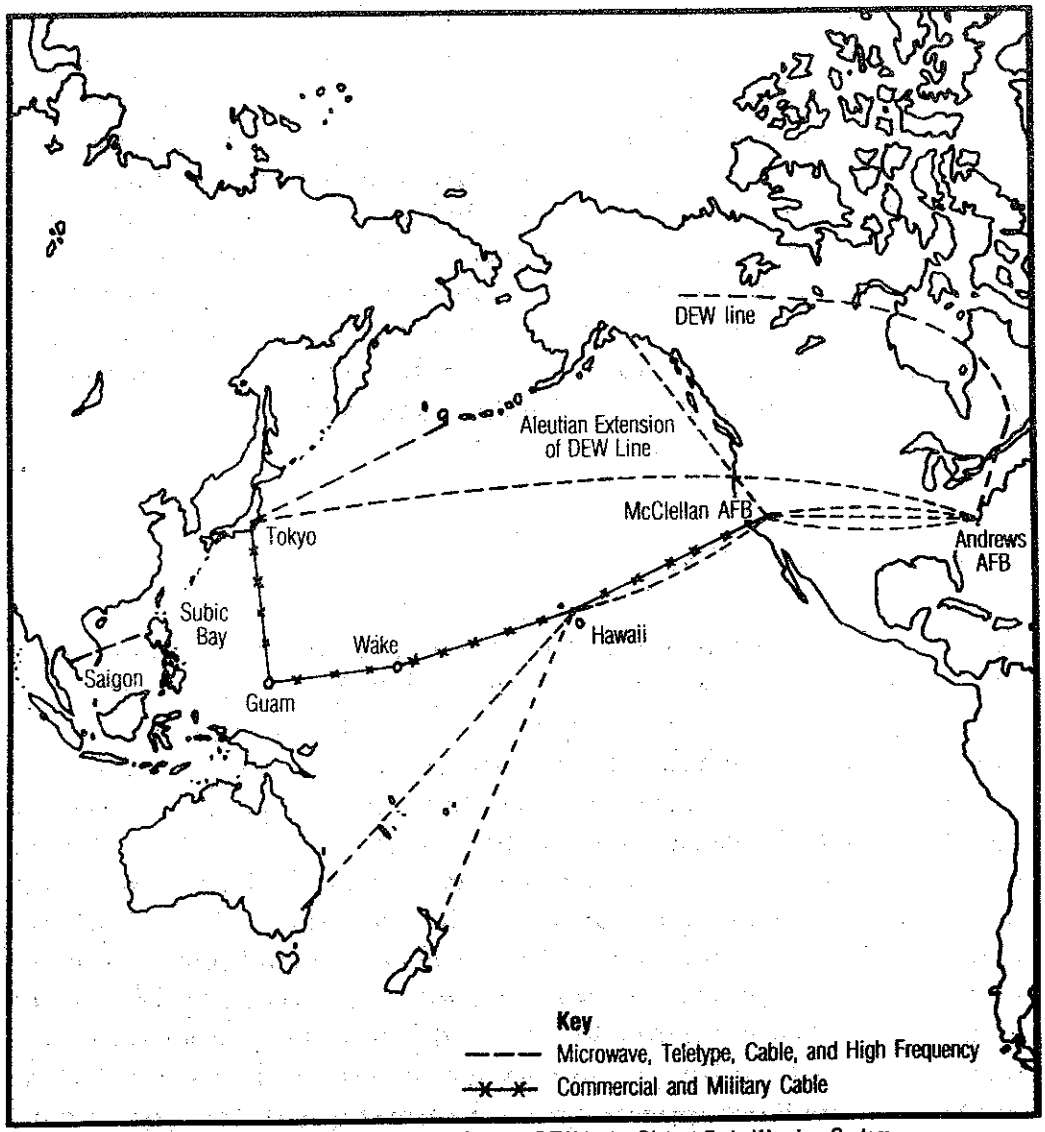
For all its efforts, centralized integration under DCA auspices is still feeble.[5] The services jealously guard their communications autonomy, resulting in fragmented and often incompatible hardware. In the early 1970s, Pacific Command and each of the services maintained thirty-three telecommunications sites on the Hawaiian island of Oahu.[6] Although that number shrank to eleven by 1984, the system remains diffuse and fragmented across Pacific Command.

Evolution or Involution?

As with all aspects of the Pacific Command, the existing communication architecture is as much the accumulated baggage of the past as a rational plan for the present. Up to 1964, pan-Pacific and tactical communications were wholly dependent on high frequency radio and submarine cables[7] (see Map 11.1). While the low frequency radio infrastructure in Northeast Asia was established in the Korean War,[8] the real innovations came during the Vietnam War when field forces were connected to commanders in Hawaii and Washington, D.C. In 1964, the first trans-Pacific commercial cable reached the Philippines and the military leased a piggyback ride. In 1965, a submarine cable snaked along the coast of Vietnam and Thailand, and military microwave and troposcatter radio infrastructure soon covered Southeast Asia.[9] Communication satellites appeared next, beginning with the first satellite receiver on the U.S.S. *Canberra* in 1967 in the Western Pacific,[10] followed by limited service on leased satellite channels between Washington, Hawaii, and the forward bases, reaching the newly acquired Diego Garcia in the Indian Ocean in 1969.[11]

Satellite service expanded gradually after 1969, and today, virtually every point in CINCPAC's domain is accessible by satellite[12] (see Maps 11.2 and 11.3). At an altitude of about 35,900 km, satellites in the

Map 11.1:
Defense Communications System in PACOM, 1964



Note: BMEWS is the Ballistic Missile Early Warning System. DEW is the Distant Early Warning System.
Source: From *Electronics*, October 19, 1964.

equatorial plane* are in geosynchronous orbit, that is, they stay above the same earth-point (see Figure 11.1). From such a position, each communication satellite covers 34 per cent of the earth's surface area and can instantly relay messages between two earth terminals.

Satellites orbiting in the equatorial plane, however, are not suitable for transmitting directly to earth receivers located above 70° north and south latitude. Since the angle between satellite-and-receiver and horizon-and-receiver becomes very acute because of the curvature of the earth, interference occurs at these high latitudes. For these areas, satellites adopt an elliptical orbit in order to maximize the time spent over the northern-polar regions (see Figure 11.2). Satellites in a north–south orbit operate at lower altitudes and require on-board recorders to store incoming information for replay later when they arrive in line-of-sight of a receiver or a relay ground station. These satellites are especially convenient for Arctic operations where high frequency radio works poorly.[13] In 1989, the new MILSTAR system will combine both orbits in a truly global, continuous coverage.[14]

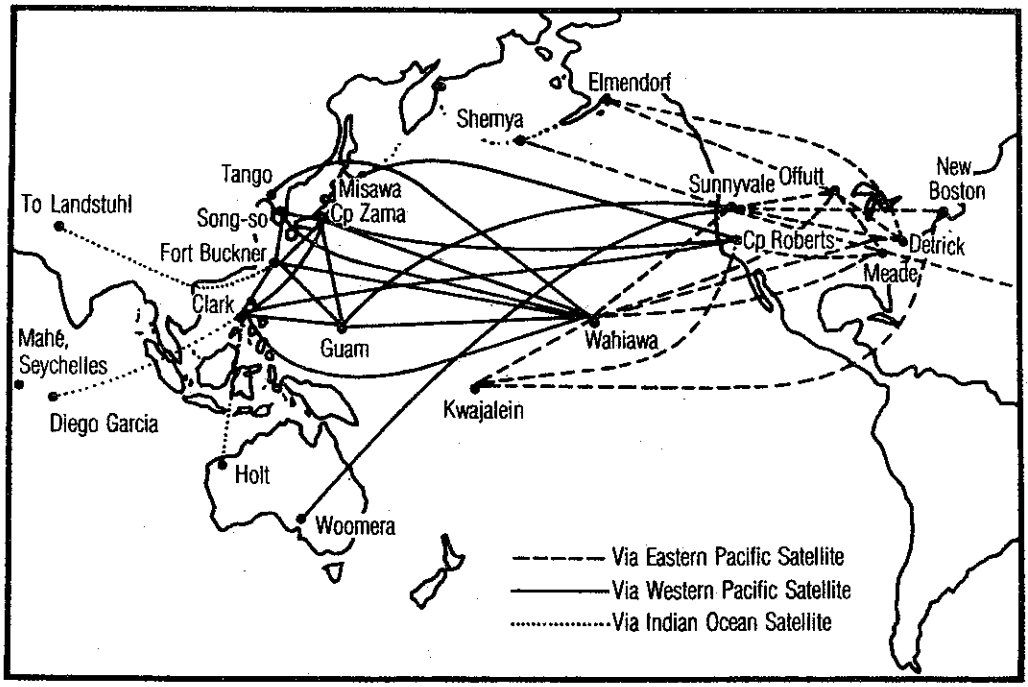
Satellites are uniquely proficient in reaching mobile transmitters. Indeed, no other long-distance communication system can pass such large amounts of information so rapidly. Their only limits are determined by the size of the antennae on the earth-based sending and receiving transmitters, and the amount of transmission power to and from the satellite.

Overall, the Pacific Command communications systems can muster over 250 cable or satellite links to support 1200 trunklines and over 8,000 circuits at once. The long-haul system reaches to over 330 force commanders and to 450 branch exchanges,[15] fanning out from there to deployed forces (See Appendix D). CINCPAC also emphasizes compatibility with allied communications infrastructures within the Pacific Command system,[16] making allies dependent on the U.S. for vital transmissions.[17]

The Navy uses all possible media to connect its various forces to their commanders. Submerged submarines, for example, rely on lower frequency systems, although they can draw on all radio frequencies with a buoyed or surfaced antenna. High frequency (HF) radio is the

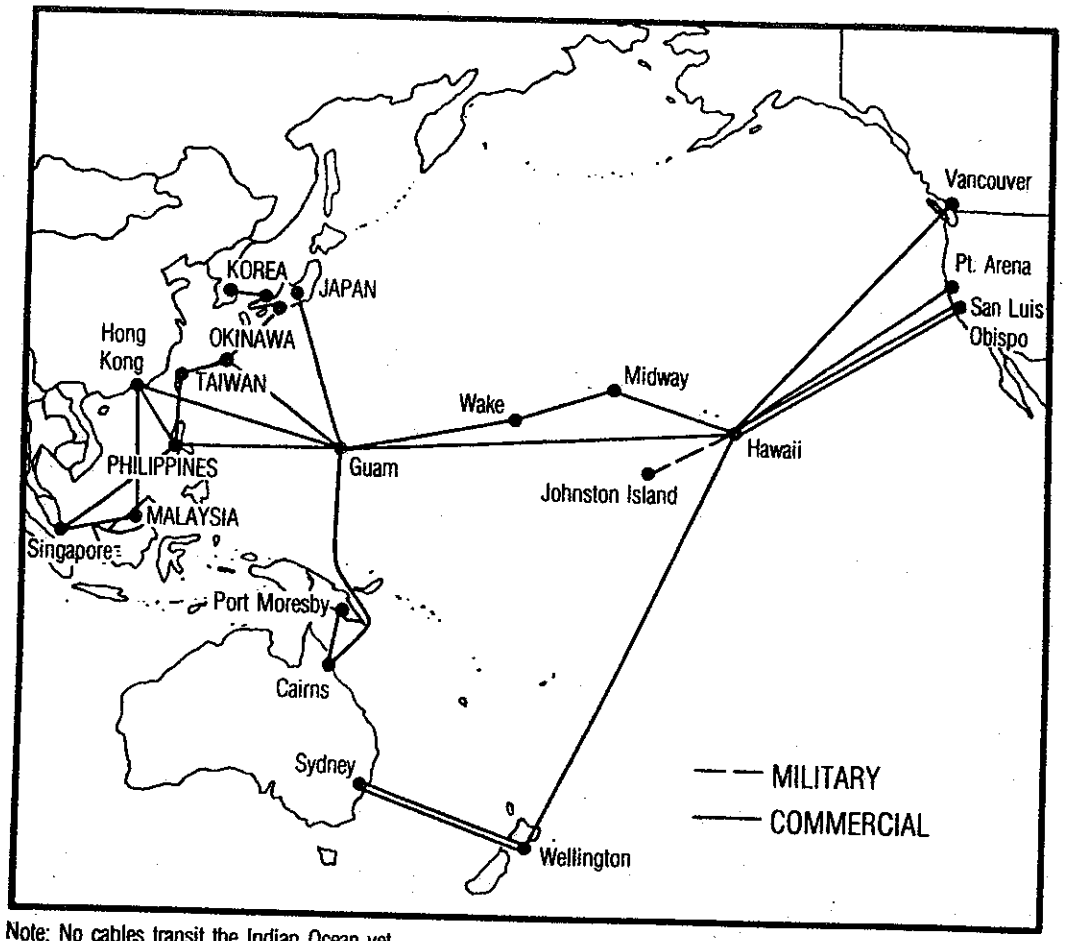
* The equatorial plane is that plane transecting the earth at the equator. Many U.S. communication, meteorological, and early warning satellites are placed in orbit above the earth in the equatorial plane.

Map 11.2:
Defense Communication Satellite System in PACOM, 1984



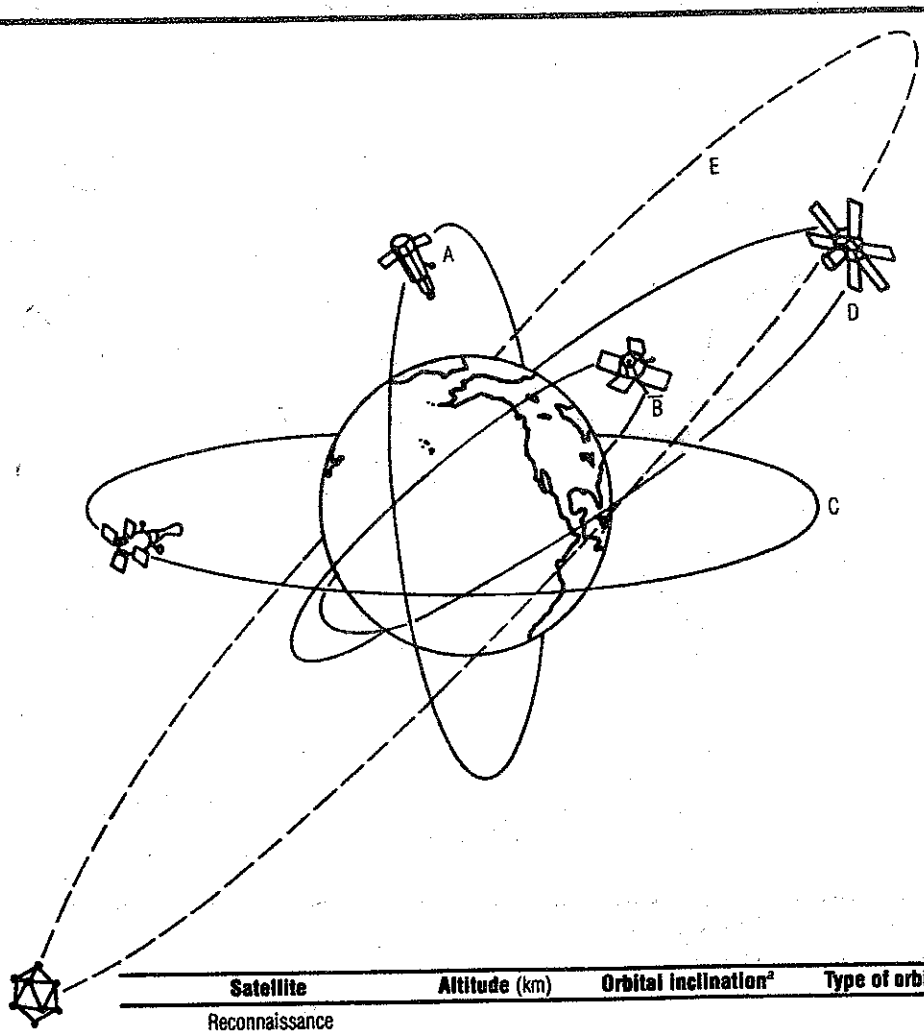
Note: PACOM also leases 181 commercial satellite channels not shown here.
Source: *Signal*, February 1984, p.,36.

Map 11.3:
Submarine Cables in PACOM, 1984



Note: No cables transit the Indian Ocean yet.
Source: *Signal*, February 1984, p. 25.

Figure 11.1
Communication and Intelligence Satellite Orbits

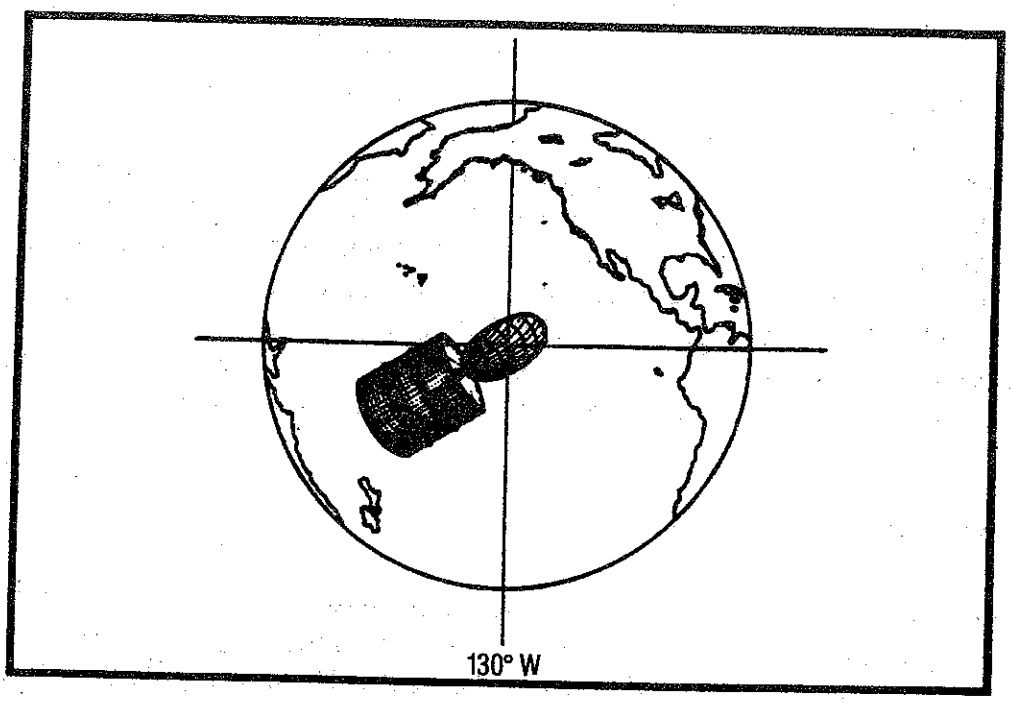


Satellite	Altitude (km)	Orbital inclination[a]	Type of orbit
Reconnaissance			
Photographic			
Big Bird	180–290	97°	A
KH-11	240–530	97°	A
Electronic	480	97°	A
Ocean surveillance	1,100	63°	B
Early warning	36,000	0°	C
Nuclear explosion detection	110,000	35°	E
Meteorological	36,000	0°	C
Communications			
US SDS DSCS	250 x 39,000	64°	D
US FLTSATCOM	36,000	0°	C
Navigation	20,000	64°	B

[a]The angle between the plane of the orbit and the equatorial plane.

Source: After B. Jasani & C. Lee, *Countdown To Space War*, Taylor & Francis, London, 1984, pp. 16–17.

Figure 11.2:
Satellite Earth-view over PACOM



Source: E. Fthenakis, *Manual of Satellite Communications*, McGraw-Hill, New York, 1984, p. 19.

mainstay of surface fleet and naval air communications, as well as for the Air Force's land-based aircraft in the Pacific Command. On land, U.S. forward bases are connected by in-country relay networks. Tactical Army communications rely on HF back-pack radios, or mobile ground terminals using satellites in higher frequencies.

While all forces rely on this complex architecture, communication of navigation information is particularly important to mid-ocean fleet and aircraft since there are no signposts in the middle of the ocean or at 10,000 m in the air. Very low frequency Omega transmitters, low frequency LORAN radio stations, and ultra-high frequency NAVSTAR satellite stations enable aircraft and ships to determine their exact position. The currently deployed NAVSTAR satellite provides earth-bound users with all-weather navigation fixes accurate to within 16 m and the receiver's velocity accurate to within 0.7 m per second.[18]

Communication and Control

The first use of telecommunications technology to facilitate U.S. military operations in the Pacific was in 1898, when the national command in Washington telegraphed Admiral Dewey in Hong Kong with orders to occupy Manila.*[19] Although Dewey waited for the go-ahead from his superiors, the relatively crude character of the communications system meant that field commanders were able to operate with a high degree of autonomy. During the Korean War, for example, delayed communications made it impossible for the Pentagon or President Truman to fully control General MacArthur's provocative strategy. The communications system in Northeast Asia was often overloaded, and MacArthur's superiors often received word of his initiatives after the fact.†[20] Between 1950 and 1970, however, the increasing sophistication of the military's communications network allowed the Pentagon to centralize command of operations in the Pacific. In Vietnam, instant satellite communications allowed the White House to virtually by-pass CINCPAC and direct combat operations from Washington.

* Thereafter, high frequency radio became the mainstay of military communications until the 1960s.

† MacArthur was also adept at exploiting the weaknesses of the system for his own ends.

An incident on the Demilitarized Zone in Korea in 1976 provides a clear example of the trend toward centralized command. Two American GIs were shot by north Korean troops while pruning a poplar tree in the Zone. In response, the U.S. undertook *Operation Paul Bunyan* – an armed tree-cutting expedition backed up with F-111s flown in especially from Idaho and a carrier task group offshore.[21] The chain-saw operators were in direct contact with the Pentagon via helicopter to the command in Seoul, by-passing the Korean Command and CINCPAC altogether. Since the dividing strip is one of the most tense spots in the world, Washington was determined to exercise complete control over the field situation. Moreover, the attitude of the U.S. Commander in Korea, General Stilwell, probably did not inspire the Pentagon's confidence in local military leadership. Later Stilwell revealed his game-plan: "We hoped that they [the north Koreans] might meet us around the base of the tree and we would perhaps bash in a few skulls with karate chops, clubs, and what not."[22]

Centralization of command, however, is a two-edged sword. While communications systems shorten commanders' response time to events halfway around the world, reliable control of war, especially nuclear war, remains elusive due to automated and increasingly faster delivery systems which accelerate the pace of war. While technological improvements, in short, have speeded up communications, the time required for delivery of nuclear weapons is decreasing faster than that needed to control the hardware. The quality of decisions made by commanders in Washington moreover, is inevitably reduced by their distance from the site of conflict.

Military Intelligence

The complexity of Pacific Command's communications architecture is nearly matched by its intelligence system. The U.S. intelligence system in the Pacific works like a voracious vacuum cleaner, sucking up heaps of information and dumping it on the desks of analysts. But it can also be used like a stethoscope when CINCPAC wants to listen closely to the pulse of American enemies and friends in the Pacific.

The heart of the Pacific intelligence system is the Intelligence Center Pacific (IPAC) based in Hawaii, a joint, subordinate operational command of CINCPAC. IPAC draws on all sources of intelligence in and out

of the Pacific to maintain background files or warn of impending adverse developments. To these ends, IPAC monitors all intelligence sources and assesses each country's military, political, and economic affairs. It also analyzes air defenses and keeps target plans up-to-date.[23]

Information sources include communications, electronic and photographic intelligence from spy satellites, planes, and stations on U.S. bases throughout the Pacific Command, as well as reports from the more traditional double agents.* IPAC is also the Pacific contact point for the Pentagon's Worldwide Indications and Warning System which tracks political and military events.[26]

Intelligence systems, especially communication and electronic intelligence, rely heavily on U.S. foreign bases (see Appendixes A9 and C). Ground bases for spying on communications or electronic activity (especially radars), for example, are best located close to the source. Where range reduces the efficiency of eavesdropping, mobile collection bases are used, usually on ships and aircraft.

Spy satellites, such as the Central Intelligence Agency's KH-11 and the Air Force's Big Bird,† also require ground control stations to obtain global coverage, especially in Australia, Guam, Alaska, Hawaii, and the Seychelle Islands in the Indian Ocean. These stations send commands to the satellite to shift orbit or activate or deactivate the satellite electronic systems. Ground receiving stations are also needed to collect data recorded in orbit while out of reach from ground stations, which is then communicated via satellite to the Intelligence Center, Pacific. Photographic intelligence satellites also drop capsules of film back to earth which are caught mid-air by aircraft or helicopters out of Hawaii, Alaska, or Okinawa (see Appendix C2).

In the past, many spy satellites have been launched into orbit from Vandenberg Air Force Base in California over the South Polar region. The manned Space Shuttle provides unique surveillance and satellite launching capabilities for the Air Force. Ship or air-based systems are

* This information is assembled into summaries of military capability in each country in the region, detailed studies to support the various warplans, and target lists for attack should war erupt.[24] These reports are passed on to the relevant commands via the office of Pacific Command.[25]

† "Close look," low-altitude ferret satellites back up these spy satellites by collecting electronic and photographic intelligence.[27]

used where more prolonged, closer collection is required, especially for photographic or electronic intelligence.* These systems cluster around active U.S. interventions, and continuously monitor the Alaska–Northeast Asia zone for Soviet missile test telemetry and air defense radar emissions.

The U.S. is not averse to "tickling" Soviet radar systems to assist the design of U.S. counter-measures and attack routes. In 1978, for example, the U.S. sent several spyplanes and six ships, including destroyers, into the Sea of Okhotsk, the "inner sanctum" of Soviet submarine operations in the Pacific. The Soviets either failed to observe their presence, or refused to turn on their radar, and the U.S. spies retired empty-handed.[30] In September 1983, a Korean Airlines plane was shot down in the same vicinity, causing the deaths of 269 passengers and crew.[31] The Soviets claimed that they had confused the commercial flight with a U.S. military plane, an RC-135, which was also in the area. Amid the acrimony and accusations, two former RC-135 pilots confirmed previous U.S. intelligence missions: "It has been our experience that, on occasion, NSA [National Security Agency] adjusts the orbits of RC-135s so that they will intentionally penetrate the air space of a target nation."[32] Whatever the commercial airliner was doing in Soviet airspace, its demise provided an enormous U.S. intelligence *coup* – the configuration of many Soviet air defense radars activated during the plane's tragic incursion.

Early Warning

The Pacific serves as a platform for early warning of nuclear attack on the U.S. itself or its bases, and for monitoring a nuclear war (see Table 11.1). Whether it is fixed or mobile, each forward base must also be

* The most important systems are the continuous electronic intelligence monitoring by RC-135 aircraft off the Soviet Far East, and the Blackbird SR-71 reconnaissance aircraft which monitors electronic (ELINT) and photographic intelligence until a satellite arrives overhead.[28] The Pacific Command ELINT Center is located at Hospital Point, Honolulu; the Air Force's 548th Reconnaissance Technical Group is supervised by Intelligence Center-Pacific, and is located at Hickam Air Force Base in Hawaii with a subordinate squadron at Yokota Air Base in Japan and possibly at Yongsan Air Base in south Korea. The 548th mostly conducts imagery analysis.[29]

Table 11.1:
Nuclear Detonation Detection and Missile Early Warning Systems in Pacific Command

A. *Satellite NUDET and EW Systems:* orbit in geosynchronous equatorial orbit to provide infrared sensor area coverage. DSP Satellite EW System, Code 647 Satellites, two satellites in geosychronous orbit over Pacific (135° W) and Indian Ocean (70° E) with infrared sensors. Integrated Operational Nuclear Detection System, infrared sensors on Navstar GPS Satellites, also on 647 EW satellites (see below).

B. *Ground Stations:*

Guam:	Ritidian Pt., Station for monitoring effects atmospheric NUDETs.
Kwajalein:	Pacific Barrier ASAT radar.
Australia:	Nurrungar, non-U.S. ground terminal for Program 647 missile EW satellite system (also known as Defense Support Program – DSP).
Alaska:	Shemya, Cobra Dane ground-based, Cobra Ball airborne, and Cobra Judy ship-based missile tracking radar. Clear, Ballistic Missile Early Warning Missile sites; EW radar system. Alaskan Air Command Air Surveillance, 13 missile EW sites. DEW line, seven sites, missile EW radar system. Pacific Barrier ASAT radar.
Philippines:	Cagayan de Oro, John Hay Camp; sites for remote detection atmospheric NUDETs. San Miguel, Pacific Barrier ASAT radar.
Canada:	DEW line sites continuing Alaskan system along edge of Arctic Ocean; tactical SIGINT/PHOTINT intelligence assets.

Table 11.1: (cont)

Key: NUDET = Nuclear detonation; EW = Early warning; DEW = Distant early warning; SIGINT = Signals intelligence; PHOTINT = Photographic intelligence.

Source: O. Wilkes, Foreign Military Bases Project, SIPRI, 1983.

defended. To this end, radars survey the airspace around each of the major U.S. bases in Pacific Command, forming an almost continuous early-warning belt in the Western Pacific, Alaska, and Canada. These are supplemented by readings from long-range radar early warning systems in the northwest Pacific, especially off Alaska, and by Airborne Warning and Control planes above war-prone areas such as Korea (see Appendix C4).

As a primarily naval theater, Pacific Command constantly tracks thousands of ships on a computerized system operated by the Pacific Fleet's Intelligence Directorate.[33] U.S. warships keep tabs on potential target vessels such as Soviet warships, merchant vessels, or fishing trawlers using high frequency radio direction-finding equipment. This information is supplemented by fixes from the network of land-based stations with the same function,* by reports from visual encounters on the high seas, and by sightings by U.S. and allied P3C Orion ocean reconnaissance aircraft. Merchant vessels and friendly warships are called OSIS (for Ocean Surveillance Information System) WHITE, and communist vessels are called OSIS RED.[34] The Classic Wizard naval surveillance system supplements these terrestrial systems with eyes-in-the-sky satellite collection of radar and radio emissions from vessels 1,100 km below. In Pacific Command, Classic Wizard relies on the ground station at Diego Garcia, Guam and Adak.[35]

The computer identifies each vessel by name, type, and radio call-sign. The Fleet Intelligence Center at Pearl Harbor issues two reports based on this information system.[36] The first, called DEPLOC for Daily Estimated Position Locator, provides routine information on a regular basis as to vessel positions. The second, named CASPER for Contact Area Summary Position Report, can inform a commander of the vessels in a requested area at a specific time. In as little as ten minutes, the CASPER can supply a U.S. warship with complete, up-to-date target information needed to fire a Harpoon or Tomahawk anti-ship missile at a distant naval target.[37]

* In Japan, Guam, Canada, New Zealand, Australia, Hong Kong, and Diego Garcia.

Calibrating the Oceans

A system of top-secret underwater hydrophones (the Sound Surveillance System or SOSUS) and Anti-Submarine Warfare Centers in the Pacific sift recordings of Soviet submarine "noise prints" echoing through the ocean (see Appendix C5). Soviet submarine departures and movements are monitored continuously. By the mid-1970s, the Soviets reported that two U.S. SOSUS systems snared the sound signatures of Soviet submarines in the Pacific: *Colossus*, installed in the late 1960s to cover the approaches to the U.S. West Coast; and *Sea Spider*, in the mid-Pacific north of Hawaii.

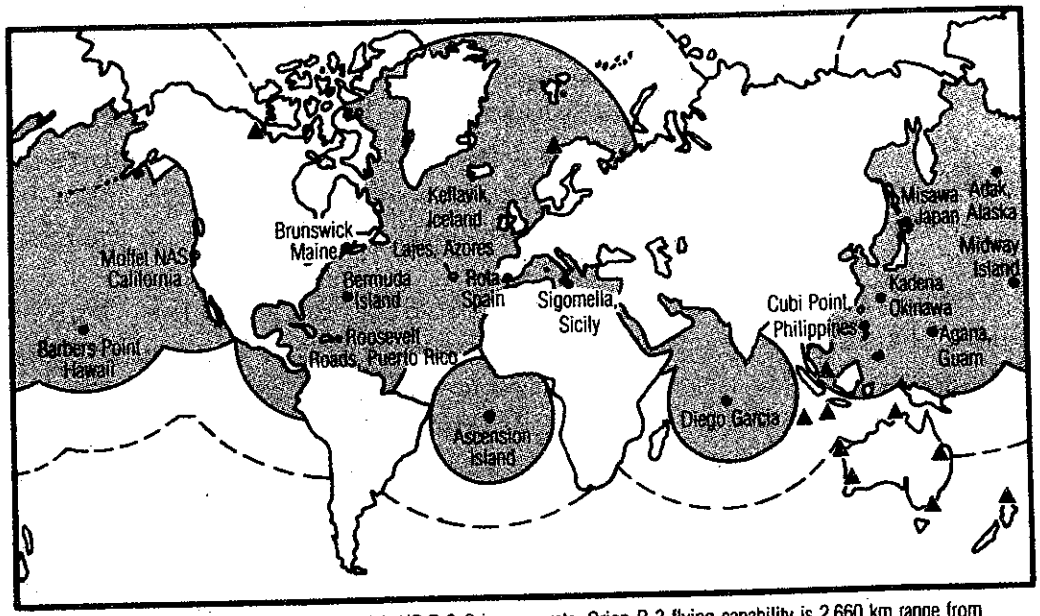
These arrays were supplemented by SOSUS nets along the Aleutian chain;* by offshore systems around Okinawa, Korea, Taiwan, and the Philippines;[38] and by rapidly deployable "barriers" of long-lived sonar buoys. Proximity of the processing base to the submarine hydrophone nets is important since the gigantic volume of recorded information must be "massaged" immediately by computers to provide up-to-date, "tactical" intelligence. Additional intelligence comes from SONAR arrays towed by submarines or surface vessels, and disposable sonar buoys dropped by Viking E2C and P3C Orion aircraft which pin-point Soviet submarines in the zone predicted by the Ocean Surveillance Information System (OSIS) (see Appendix C5 and C6).

OSIS is the overall intelligence system which supports the Anti-Submarine Warfare Command and Control System in the Pacific.[39] OSIS gathers the SOSUS data and adds it to the intelligence on submarine communications from the network of high frequency radio stations across Pacific Command. All this information, in turn, is communicated instantly by satellite to a bank of computers, which sifts out the submarine signatures from the background of oceanic noises. The computers also constantly update a giant computer model of the ocean's vertical temperature profile,† information gathered since 1957 by a global system of thermometers at various depths[40] and more recently supplemented by infra-red satellite

* And, according to the Soviets, in the Kuriles-Kamchatka Trench, which seems technically difficult and is denied by informed sources in Pacific Command.

† The velocity of sound through water depends on the water's temperature and pressure which does not change uniformly with depth. The temperature profile is therefore required to predict the refraction paths of sound through the ocean.

Figure 11.3: Operating Radius of P-3 Aircraft Using Current Bases



Note: Shaded areas indicate airfields from which US P-3 Orions operate. Orion P-3 flying capability is 2,660 km range from airfield, with 4 hours "on station." Dotted lines indicate P-3 coverage if no time spent "on station." P-3s for ASW have no refueling capability as yet. Additional coverage is available from allied ASW planes or airfields marked ▲.

Source: B. Cooper, *Maritime Roles for Land-Based Aviation*, Congressional Research Service report 83-151.F, Washington, DC, 1983, p. 23; US Air Force, Office of Public Information, October 1984; O. Wilkes, SIPRI Foreign Military Bases Project files, 1983 and "Strategic Anti-Submarine Warfare," *SIPRI Yearbook, 1979*, Taylor and Francis, London, 1979, p. 434.

imagery.[41] The model then interprets the SOSUS recordings in light of the sound velocity structure of the deep ocean layer (between 1,200 and 1,400 m), which transmits submarine noise over thousands of kilometres. This model thereby predicts how submarine sounds will bend and reconstructs the location of the Soviet submarines - critical intelligence for U.S. anti-submarine forces in the event of war.

To operate this vast acoustic and thermal monitoring system spanning the globe requires many forward bases in the Pacific. Since anti-submarine intelligence enables the superpowers to threaten the least vulnerable nuclear weapons, viz. those aboard submarines, it can be argued that these capabilities increase the risk of nuclear war by inducing one side to pre-empt the other.[42] To block a first strike from U.S. submarines, these apparently innocuous communication bases are prime Soviet targets in a nuclear war.

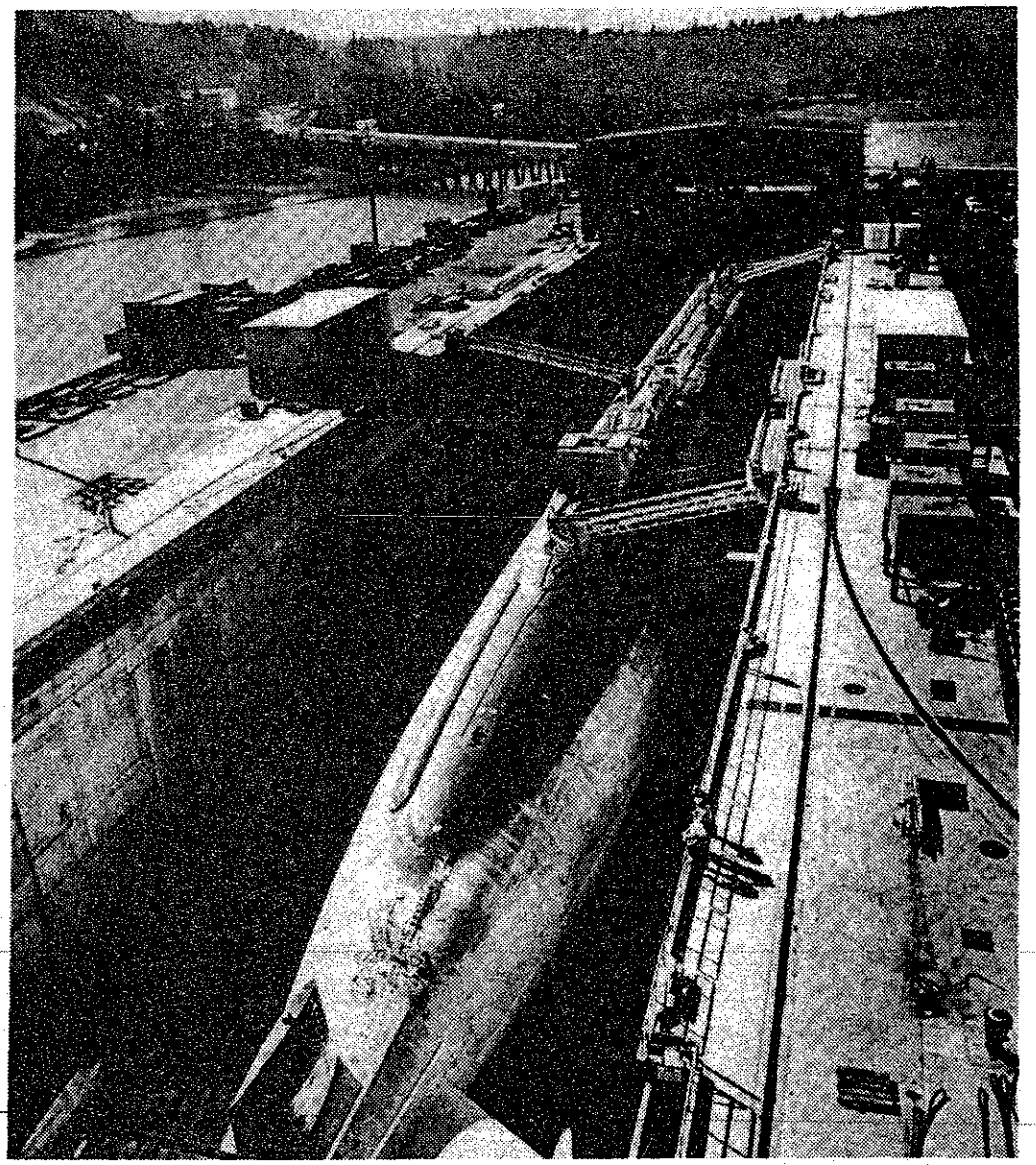
Busy Observers

Land-based aircraft provide crucial reconnaissance over the oceans, seeking indications of submarines or surface ships. P3C Orion and more recently B-52 aircraft under the Air Force Busy Observer program are primarily responsible for this task. As revealed in the structure of back-up airfields (see Appendix C6 and C7), this system focuses on the major sealanes.

Aircraft carriers supplement this strategic reconnaissance with their own Hawkeye E2C reconnaissance aircraft. With this system, when combined with P3C Orions, the U.S. can reconnoitre virtually any area at short notice (see Figure 11.3). Since 1976 the earliest ocean intelligence has been provided by Classic Wizard surveillance satellites which use radar and electronic intelligence to locate surface ships.[43]

While U.S. intelligence capabilities are almost omnipresent in the Pacific, they are also unreliable. Indeed, U.S. intelligence systems in the Pacific may be so vast as to be unmanageable, and the intelligence itself so voluminous as to be incomprehensible. "Intelligence" may become assured ignorance. Automated and bureaucratic systems are notoriously fallible, and Pacific Command intelligence is both highly automated and highly bureaucratic. Nonetheless, when the U.S. turns on the spotlight, a great deal of landscape is illuminated and information is acquired. Whether commanders have much idea what to do with it all is another matter.

USS *Ohio*, Trident missile-firing submarine in dry-dock,
Bangor, Washington state, U.S., 1983
(Pentagon)



TWELVE ☆
THE MEANS OF ANNIHILATION

I can go into my office and pick up the telephone and in twenty-five minutes seventy million people will be dead.

—President Richard Nixon, November 1973[1]

The ultimate threat in the global military arsenal of the United States is nuclear annihilation. Based primarily on submarines, surface warships, and bombers, Pacific Command's ever-ready nuclear forces are found everywhere in the region.*

Planning and preparing for nuclear war has preoccupied the Pentagon and Pacific Command since the 1950s. Under Reagan's pro-navalist, global military doctrine, however, preparing for nuclear war has acquired new momentum in the Pacific. The Pacific Commander-in-Chief is pushing hard to "modernize" his nuclear forces by introducing increasingly lethal nuclear missiles such as the Tomahawk and the Trident I and II. Nuclear war support functions, especially the vulnerable – and crucial – communications facilities, are being hardened to "endure" nuclear war. The concept of fighting a protracted or "limited" nuclear war, such as a nuclear exchange in Korea or at sea, has reappeared in military discourse.

As the hardware piles up and the anti-Soviet rhetoric becomes more

* While we describe in this chapter the major nuclear weapon systems in the Pacific, we do not dwell on technical details available elsewhere.[2] Furthermore, we do not deal with biological, chemical, or climatic means of warfare.

strident, the nuclear arms race in the Pacific imposes an ever-increasing nuclear threat.

Nuclear Vortex

Nuclear weapons work by releasing huge quantities of energy from fissioning or fusing atoms, an energy which differs in quantity and quality from that of conventional weapons. The energy released in the heat, blast, and radiation of a nuclear bomb can incinerate, vaporize, explode or otherwise destroy whatever is in the radius of 30 to 40 km of the explosion. Rather than the *block*-buster bombs and military occupation of past wars, nuclear strategists talk of *city*-buster weapons and country-killing warfare.

The development of nuclear weapons inverted the traditional relationship between means and ends of weapon systems. Formerly, states armed partly to deter attack but mainly to fight for victory, a strategy which produced periodic stretches of war and peace. Since nuclear weapons are so powerful as to be virtually useless for warfighting, nuclear weapons can be "used" only to avoid or deter nuclear war. In effect, nuclear weapons have transformed "peacetime" from a state of non-war to one of feverish preparation for nuclear war, a state of permanent nuclear stalemate which could culminate in one final cataclysm.

A succession of doctrines has attempted to transform nuclear weapons into manageable tools of war and diplomacy. In the 1940s and 1950s, coined the "Age of Assured Ascendancy" by defense analyst John Collins, U.S. warplans called for immediate escalation to all-out nuclear war, with attacks aimed principally at cities and military bases in China and the Soviet Union.[3] In the 1960s, the "Age of Assured Destruction", the U.S. adjusted to the certainty of Soviet retaliation in the event of a nuclear attack. Nuclear war became "unthinkable" and nuclear weapons became the backdrop instead of the centerpiece of superpower rivalry. U.S. nuclear targeting "packages" were broken into discrete sets of cities and military targets, which allowed war planners to escalate "less rapidly" to the final cataclysm.

In the 1970s and 1980s, the "Age of Assured Anxiety", American strategists rethought the "unthinkable." They refined their techniques of nuclear warfighting and resuscitated the notions of nuclear "vic-

tory", limited nuclear war, and gradual escalation. The doctrine of "counterforce" – attacking Soviet nuclear forces first, and then urban-industrial targets, thus avoiding the city populations *per se* – was openly declared for the first time. While counterforce *targeting* had been part of every nuclear warplan since the 1940s, its formal adoption signalled a move away from deterrence and proclaimed the Pentagon's belief in the possibility of victory in a protracted nuclear war. It also underscored the utility of an all-out, pre-emptive first-strike (see Chapter 18).[4]

Since the Korean War, the size of the global nuclear stockpile has constantly increased. In an effort to keep ahead of the Soviet Union, the U.S. arsenal reached about 25,000 nuclear warheads by the 1980s. These nuclear warheads have been deployed in the Pacific in virtually all their bewildering variety (see Table 12.1).

The ultimate threat, nuclear weapons embody so much potential power – including self-destructive power – that they undermine their own credibility. Yet the Pentagon continues to rely on them heavily in its warfighting plans. It *has* to behave as if nuclear weapons can be used strategically – that is, to some rational, military end – if the threat of deterrence is to work and the blackmail potential of nuclear weapons is to be exploited for coercive diplomacy. But the likely effects of a nuclear attack undermine the very concept of employing weapons strategically.

Nuclear warplans involve targeting military forces, both nuclear and non-nuclear, and urban-industrial areas. While the warplans neatly distinguish between these "hard" and "soft" targets on paper, an actual nuclear attack would be blind to the distinction.* Unless genocidal revenge against civilians becomes the military's goal – which can hardly be deemed "rational" – this inability to discriminate military targets from civilian populations makes the strategic use of nuclear weapons impossible.[5] Furthermore, an initial use of nuclear weapons crosses a psychological "firebreak" and contains the risk of rapid escalation. The risk stems, in part, from the fact that both American and Soviet forces bristle with massive nuclear arsenals at the ready. Command and con-

* This is as true of Soviet as of U.S. nuclear attacks. An attack on the U.S. naval nuclear weapons ammunition depot in Concord, California, for example, would annihilate the San Francisco metropolitan area to the west. The affected civilian populations do not have to be co-located with military targets – just downwind.

Table 12.1:
U.S. Nuclear Weapons Forward-deployed in the Pacific

Type	*Range*	*Launch Platform*	*Dual Capable*	*Firepower*
Missiles				
ASROC	2–11 km	surface, submarine fleet	yes	1 kt
SUBROC	56 km	submarine	no	1–5 kt
Terrier SAM	34 km	surface fleet	no[a]	1 kt
ALCM	2,500 km[b]	B-52s	no	200–250 kt
SLCM	2,500 km	surface, submarine fleet	yes	200–250 kt
Trident I	7,700 km	submarine	no	100 kt
SRAM	56–220 km[c]	bombers	no	170–200 kt
Bombs				
Air-dropped gravity bombs	short and long range bombers	aircraft	yes	5–9000 kt
Artillery				
155 mm shells	30 km	artillery gun	yes	0.1 kt
203 mm shells	29 km	artillery gun	yes	less than 12 kt
Atomic Demolition Mines				
Medium ADM	n/a	vehicle, helicopter, tunnel	no	1–15 kt
Special ADM	n/a	backpack portable	no	less than 1 kt
Anti-Submarine Warfare Depth Charges				
B-57	n/a	helicopter, aircraft, surface fleet	yes	less than 20 kt

Table 12.1: (cont)

Coming Soon?				
Standard Missile	120 km	surface fleet	yes	low kt
Neutron bomb	30 km	artillery	no	1–10 kt
ASW Standoff weapon	more than 56 km	surface, submarine fleet	yes	?
Trident II	7600–11,400 km	submarine	no	150–600 kt

Key: ASROC = Anti-submarine Rocket; SUBROC = Submarine-Launched Rocket; SAM = Surface-Air Missile; ALCM = Air-Launched Cruise Missile; SLCM = Sea-Launched Cruise Missile; SRAM = Short-Range Attack Missile; ADM = Atomic Demolition Mine; ASW = Anti-Submarine Warfare.

Notes: In a nuclear war, both powers will use home-based ballistic missiles against each other in the Pacific; a. Originally dual-capable, the remaining Terriers are nuclear-armed; b. Nuclear land-attack version; ALCM on B-52H bombers on U.S. West Coast only; c. Depending on altitude. SRAMs are stockpiled at Guam for B-52G delivery.

Sources: T. Cochran, *et al., U.S. Nuclear Forces and Capabilities*, Ballinger, 1984; Nautilus Pacific Research, *Warships and Warheads, U.S.–Pacific Connections*, Leverett, Massachusetts, 1984.

trol systems, relying on an unlikely combination of technological controls and level-headed, quick-thinking decision-makers, are vulnerable to serious error.

Despite the a-strategic nature of nuclear weapons, each military service has developed specialized means of annihilation to enhance its mission – and thereby increase its slice of the U.S. military budget. Of the nuclear forces in the Pacific, only the missile submarines are dedicated *solely* to nuclear war. If the superpowers wage nuclear war, *all* the nuclear and non-nuclear weapons described in Chapters 10 and 11 – the fleet, the bombers, the communications and intelligence systems – will be mobilized to amplify the annihilation.

Trident: The Ultimate Weapon System

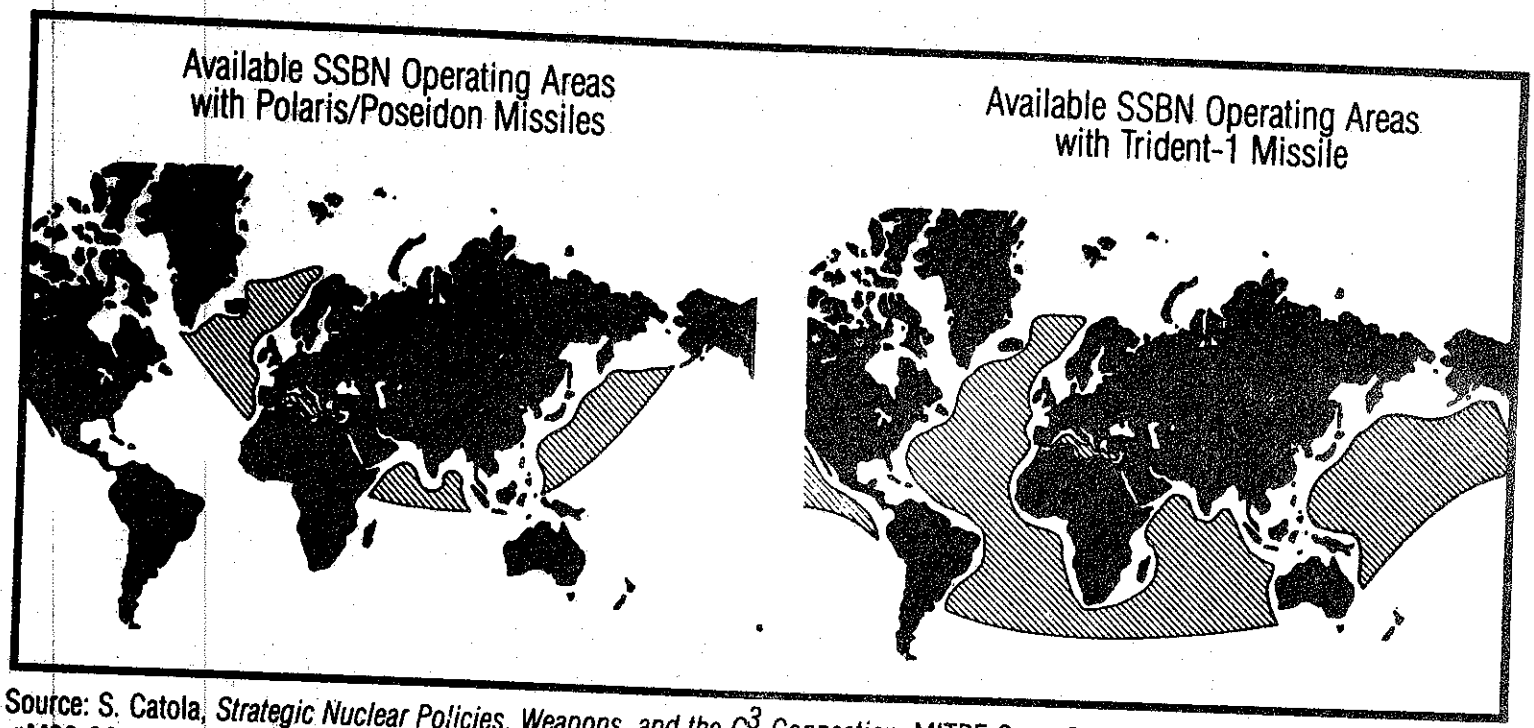
The first nuclear weapons to be fired in an all-out nuclear war will probably be land-based intercontinental ballistic missiles (ICBMs). Based in the continental U.S., these highly accurate missiles are immobile and vulnerable to preemptive attack. Not wishing to lose them, the U.S. would probably fire them immediately in an all-out nuclear war.

Submarine-launched ballistic missiles back up the ICBMs. The fraction of the U.S. nuclear arsenal based on submarines has increased as nuclear bombers, intermediate-range ballistic missiles, and land-based intercontinental ballistic missiles have become vulnerable to Soviet attack. In December 1964, the first submarine capable of firing long-range Polaris ballistic missiles to prowl the Pacific was the U.S.S. *Daniel Boone*.[6] Ten missile submarines eventually joined the Pacific Fleet, each capable of launching 16 Polaris missiles with three 200 kiloton warheads each. With a 4,750 km range, these submarines operated in the West Pacific in order to be capable of hitting urban-industrial targets deep in Central Siberia (see Figure 12.1).[7]

Today the most important nuclear weapons in the Pacific are the Trident I ballistic missiles aboard the Ohio-class submarines – commonly called Trident submarines*. On their seventy-day prowl through

* While submarines carrying nuclear missiles are often named after their missile, more than one class of submarine may carry the same missile. The point is not merely semantic: besides the Ohio, the Benjamin Franklin and Lafayette classes currently carry Trident I missiles, although only the Ohio currently operates in the Pacific.

Figure 12.1:
U.S. Ballistic Missile Submarine Operating Areas Before and After Trident Missile Deployment



Source: S. Catola, *Strategic Nuclear Policies, Weapons, and the C^3 Connection*, MITRE Corp. Document #M83-30, Bedford, Massachusetts, p. 69.

the Pacific at a cruising speed of about 25 km per hour, an Ohio submarine can reach the mid-Pacific in about ten days.[8] It then has about seven weeks to wait at its "station" for the order to fire its missiles.

Judged by cost, range, firepower, or accuracy, the Ohio is a leviathan. Costing about a billion dollars, each submarine weighs 15,000 tonnes and stretches 171 m from bow to stern – the length of two-and-a-half 747 jumbo jets.[9] Capable of cruising at a depth up to 300 m, the Ohio is superquiet, reportedly emitting less sound at low speeds than an automobile on a highway.[10] Nevertheless, the Ohio can hit a submerged speed in excess of 56 km per hour. Inside, the hull is so crowded with electronics, a nuclear reactor, and weapons that some of the crew must sleep between the Trident missiles![11]

The Ohio submarine is the ultimate land-attack weapon. Packing a payload of 192 nuclear warheads on 24 Trident I missiles, an Ohio can deliver a total of 19 megatons within 500 m of its target – the equivalent of 1,500 Hiroshimas. With a firing range over 7,700 km, nearly twice as far as the Polaris missile, the Ohio system enlarges submarine operating areas by a factor of 10 to 20. (see Figure 12.1). Its future armament may feature MK 500 MARV* warheads which can maneuver to evade Soviet anti-ballistic missile interception. Starting in the early 1990s, the Trident II missile will be retrofitted into Ohio submarines in the Pacific. Without losing range or explosive power, Trident II is even more accurate than the Trident I, due to its capacity to navigate from the stars before the re-entry vehicles plunge back to earth.

Protected by the wilderness of opaque water, Ohio submarines are the long-range nuclear launch platforms which are least vulnerable to preemptive attack, and the most likely survivors in a nuclear war. However, the Ohio has two disadvantages. First, it cannot be used to "show the flag" to threaten a non-nuclear adversary in coercive diplomacy since it is kept submerged and invisible when deployed. It is dedicated to threatening nuclear-armed adversaries with a nuclear reprisal capability. Second, the deep water which protects submarines so well is also a poor transmitter of radio communication (see Appendix D). For this reason, great emphasis is placed on building systems that can reliably communicate with submarines without revealing their position.

Since there is a strong probability that submerged submarines will be

* Maneuverable Re-entry Vehicle, designed to confuse and evade Soviet defenses.

incommunicado during war, commanders of the Ohio submarines are not constrained by technology from firing the nuclear warheads. The command from above to fire merely authenticates codes kept aboard rather than unlocking them, thereby authorizing the submarine commander to launch the missiles.* Since the consequences of error or misjudgement are so grave, the command to fire must be verified by four or more officers. To protect the world against inadvertent or insane use of the awesome power of the Ohio's Trident missiles, these officers are authorized to mutiny against their captain should the worst occur.[12] There is no authorization, however, for the crew to mutiny against the collective insanity of all the officers.

The first Ohio submarine (the U.S.S. *Ohio*) cruised the Pacific in late 1983, replacing the last of the ten Polaris missile-firing submarines.[13] Each year, one Ohio submarine will join the Pacific Fleet until no less than ten are based at Bangor, Washington, on the Northwest coast of the U.S.[14]

Whether U.S. missile-firing submarines have been or will be deployed in the Indian Ocean is hotly disputed. Some analysts point to the Very Low Frequency (VLF) communications station at NW Cape in Australia and the early research at Karachi, Pakistan as proof that the Pentagon deploys these weapons in the Indian Ocean.[15] Since NW Cape was also needed to complement other VLF signals in the Pacific, this argument is unpersuasive.[16] Others have pointed to vague references that the Ohio-class submarines are *capable* of operating in the Indian Ocean as evidence.[17]

There is no doubt that the Ohio submarine *could* reach all the way to the Indian Ocean and back without refuelling, and still have a month to threaten the Soviet Union from a southern launching site against urban or industrial targets (see Figure 12.2). However, the submarine would also be out of target range and vulnerable to Soviet attack during its long travel time to and from the Pacific through the straits of Southeast Asia. Regular Indian Ocean deployment appears a relatively risky and "inefficient" use of the threat-power of a multi-billion dollar submarine. An occasional training visit to the Indian Ocean or low-cost strategic deception at Diego Garcia to make it appear that Ohio submarines

* Most other nuclear weapons are designed so that a communicated code *enables* the weapon to be armed, physically precluding unauthorized or inadvertent use.

are present might be undertaken to force the Soviets to spread out their anti-submarine forces.

The eventual deployment of Ohio submarines under the Arctic ice like their Soviet counterparts is much more likely.* Strengthened external hulls to smash through the ice would enable its Trident missiles to be launched only minutes away from Soviet targets.[19]

Manned Penetrators

Almost relics compared with Trident missiles, twenty B-52G nuclear bombers of the 43rd Strategic Wing are based at Anderson Air Force Base in Guam.[20] Currently, the B-52Gs are armed with four to eight short-range nuclear attack missiles† and four big gravity nuclear bombs. Grim Strategic Air Command generals refer to the bombers as "manned penetrators" aimed at "soft" targets.[21]

While communications with B-52Gs are more reliable than those with the Ohio submarines (see Appendix D), the bombers are vulnerable to attack when concentrated on the ground. A fraction of them are always ready to take off, therefore, within minutes of early warning of attack. Once airborne, they are slow compared to ballistic missiles. Whereas missiles cannot be stopped once the fatal launch takes place, the bombers may be recalled by radio.[22] After take-off, in other words, the bombers offer commanders time to reconsider the attack – up until the moment that the nuclear weapons are dropped. Commanders cannot be too leisurely about issuing the final word, however: flying from Guam at 800 km per hour,[23] a B-52G can reach the Soviet Far East coastline within three to four hours.

The B-52s are the most suited of all the long-range nuclear weapons for communicating nuclear threats. They are often the first nuclear weapon system to be mobilized in nuclear alerts used in the course of coercive diplomacy against nuclear-armed adversaries.

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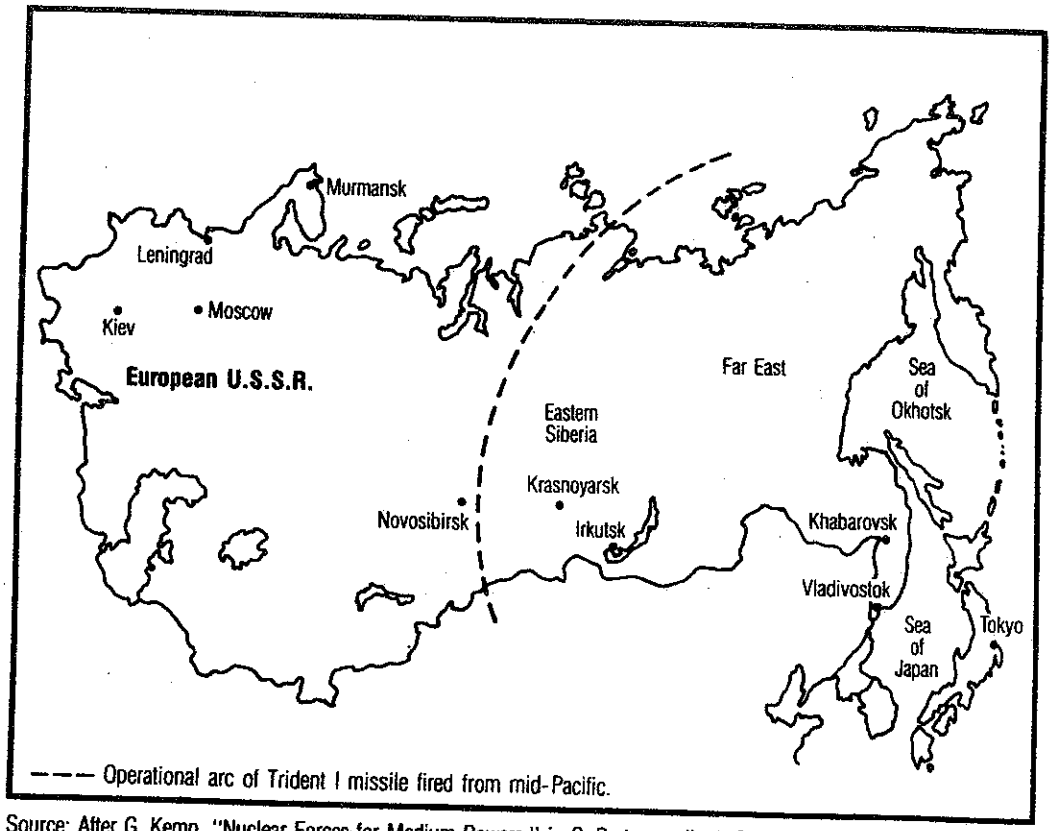
* In December 1984, satellite photographs reportedly showed evidence of a Soviet submarine ice-boring test slightly northwest of Wrangel Island in the Arctic north of the Soviet Far East.[18]

† To suppress Soviet coastal or target defenses.

Figure 12.2:
Range of Trident I Missile Fired from Mid-Pacific



Source: After G. Kemp, "Nuclear Forces for Medium Powers," in C. Bertram edited, *Strategic Deterrence in a Changing Environment*, Gower & Allenheld, Osmun, London, 1981, p. 121.

Hunter-killers

As ballistic missiles and bombers unleash an atomic cataclysm, all short- and medium-range nuclear weapons will also mobilize. These short-range delivery systems will "bounce the rubble" created by the missile attack, using nuclear weapons delivered by A6E and A7E strike bombers launched from aircraft carriers, or medium-range fighters deployed from Guam.

These forces for additional land-attacks, however, are much less important than anti-submarine warfare. Maritime reconnaissance systems, especially the SOSUS hydrophones anchored to the deep ocean floor in the North Pacific, will provide the initial coordinates of likely Soviet submarine locations. Laden with nuclear depth charges, P3C Orion bombers and any spare B-52s will then head for the predicted locations, using sonar buoys to pinpoint Soviet submarines. If there are no U.S. attack submarines in the area and the location of the Soviet submarines is not known exactly, the bombers will pepper the ocean with nuclear depth charges over a large area.* The likely areas for this undersea assault are the North Pacific, South China Sea, the Sea of Japan, Guam, Okinawa, Hawaii, and along the U.S. West Coast.

In addition to the mammoth Ohio class, the U.S. deploys *nuclear attack* submarines in the Pacific. The Los Angeles-class and converted Polaris submarines[25] hover and listen for their prey with passive sonar devices, waiting to ambush Soviet missile submarines which are exiting into the ocean or heading for protected bastions, such as the Sea of Okhotsk. In 1983, for example, as part of U.S.–Japanese straits blockage exercises following the Korean Airlines 007 incident, the attack submarines U.S.S. *Watchdog* and *Tomcat* were sent into the Sea of Okhotsk. In the event of war, these attack submarines, two of thirty-eight in the Pacific, would have launched four salvos of nuclear SUBROC missiles or torpedoes to destroy the Soviet missile submarines at a range less than 60 km.[26] This hunter-killer version of hide and seek is played at close quarters – so close that the U.S. attack submarine U.S.S.

* A megaton of nuclear depth charge will "kill" a submarine within a 6 km radius, or over a 115 square km circle of ocean.[24] Location to within 25 km requires peppering 2000 square km of ocean, or twenty to twenty-five nuclear weapons worth. With location of the target submarine known to within a 10 km radius, only three to five weapons are needed for a high probability of submarine destruction.

Pintado collided underwater with a Soviet Yankee-class missile submarine off Petropavlosk in 1974.[27]

U.S. forces directed against Soviet *attack* submarines are almost as important as those which attack Soviet *missile-carrying* submarines. Soviet attack submarines aim to defend the Soviet surface fleet and missile submarines and potentially, to cut U.S. supply lines across the Pacific to the Far East. The U.S. Navy plans to divert Soviet submarine attack on U.S. supply vessels by attacking Soviet missile and attack submarines at the outset of a war, forcing them back into the seas adjacent to the U.S.S.R.[28] This strategy is provocative in the extreme. While intended to avoid nuclear war, it could also trigger it, making U.S. anti-submarine weapons as dangerous as land-based intercontinental missiles to the Soviets in a crisis.

The American attack on the Soviet submarines would be led by anti-submarine escort ships, which fire ASROC nuclear missiles; carrier-launched helicopters and aircraft which drop nuclear depth charges; and land-based aircraft. The weapons are all key elements of the nuclear warfighting mission and are generally not used to menace non-nuclear adversaries.

Nuclear Napoleons

Unlike the highly decentralized command over conventional weapons, nuclear forces are commanded directly by the U.S. President and his immediate advisors from the National Security Council and the Joint Chiefs of Staff. To prevent unauthorized use, Presidential command is ostensibly guaranteed by a system of organizational controls, authenticating codes and equipment arming codes. Thus, the normal nuclear weapons command chain for the Pacific runs from the President, to the Joint Chiefs of Staff, and then to the Commander-in-Chief of the Pacific (CINCPAC).[29] In principle, only CINCPAC can release nuclear weapons from storage to field commanders and only he can order the commanders to use them.*

* For the Trident I missiles, the Emergency Action Message ordering use of nuclear weapons would flow from CINCPAC to CINCPACFLT to Commander Submarines, Pacific Fleet, and then on through the communications system to the Ohio submarine. Under U.S. law, only the wholly U.S.-owned and controlled portions of Pacific Command's communications arsenal may be used to transmit Emergency Action Messages.[30]

Unlike NATO, where at least the rituals of joint U.S.-allied control over nuclear weapons are maintained, the U.S. does not – with one exception – share command of the ultimate weapon with its Pacific allies.* When U.S. warships and aircraft move into the Northeast Pacific sector off Canada's coast to hunt Soviet submarines, nuclear weapon delivery systems fall under Canadian operational control.† Otherwise, nuclear weapons are the exclusive preserve of the U.S.

The President may exercise sufficient authority in conventional wars to control American forces – although General Jack Lavelle's resumption of the bombing of north Vietnam in 1971 directly contravened Presidential orders.[33] Whether or not Presidential control would be an effective safety catch on the trigger of a nuclear war is unknown. But the technology of nuclear annihilation moves at supersonic speeds, compressing decision-making time into minutes and seconds. The tempo of nuclear battle may surpass the time needed to make command decisions, forcing the national or unified commanders to release their nuclear weapons quickly. Top Navy officers admit openly that the time required for the President or Pentagon to release nuclear weapons is so short as to be "unrealistic." Furthermore, the proliferation of anti-ship cruise missiles with extremely rapid delivery times has increased pressure to revise the "rules of engagement" in order to allow U.S. ships to strike first. Navy Secretary John Lehman considers that the revision of these rules is "the most critical national security nexus that I can think of." [34]

These pressures may result in the pre-delegation of authority to expend nuclear weapons in emergencies. It is certain that such a pre-

* The Army's Western Command safeguards the *Single Integrated Operational Plan* (SIOP) at Fort Shafter with extremely stringent controls on distributing SIOP information to foreign governments. In general, orders WESTCOM, "SIOP briefings will not be given to foreign nationals." [31]

† The same applies in reverse to Canadian warships in the Pacific outside this sector when they pass into the Western Operation Area and fall under the U.S. Pacific Fleet's control. This area extends from the southern tip of the Kamchatka Peninsula to a line about 4,000 km east of New Zealand. West of this line, U.S. vessels are on their own or join West Pacific allies, who fall under U.S. control in joint operations.[32] Note that operational control means tactical coordination. Considerations of sovereignty and different organization preclude passing over command of allied forces to the U.S. or vice versa.

delegated system existed in the Pacific in the mid-1950s. Whether such authority is pre-delegated today is a matter of conjecture. According to a senior officer of the Defense Communications Agency Pacific: "CINCPAC expects to lose most of its communications at the outset of a nuclear war." [35] Loss of two-way communication between the national command in Washington and the Pacific would be even more destabilizing than in the 1950s, a contingency which may prompt prior or immediate pre-delegation of authority to expend nuclear weapons at the start of a nuclear war. Alternatively, if Washington believes that Pacific Command may have been hit by Soviet nuclear weapons or may already have fired off its own nuclear weapons, it may try to preempt a Soviet retaliation with other U.S. nuclear forces still in contact. Either way, the U.S. – or the Soviet Union – may start a nuclear war out of fear of the worst because of a communication breakdown.

The biggest command and control problem springs, however, from the intangible factor of bureaucratic rigidity and confusion. As command systems and their controls increase in number and complexity, the number of possible technical and human errors increases. Redundancy in the communications systems may then amplify the confusion and the errors into an uncontrollable spiral of nuclear annihilation.

On June 3, 1980, for example, the Pacific Command airborne nuclear command post took off from Hawaii *after* a false alarm of impending Soviet missile attack was *terminated* by NORAD. While the faulty computer chip which caused the false alarm was quickly identified and replaced, mystery remains as to why the command response went awry. Since the activation of an airborne command post is regarded as a key indicator to the Soviets that a U.S. nuclear attack may be imminent, this was no small incident.[36] Demonstrating some basic problems in the nuclear command, the event involved no less than four separate Commands, resulting in what two U.S. senators euphemistically described as "an air of confusion."*[38]

There are also major problems in the implementation of nuclear "standard operating procedures" at lower levels in the forces, remi-

* The June 3rd event was repeated on June 6th. These alarming events followed a series of earlier incidents, including a nuclear "threat assessment conference", convened by NORAD on March 15, 1980 to determine the appropriate U.S. response to the submarine launch of four SS N-6 ballistic missiles from the Kurile Islands north of Japan. These turned out to be part of a Soviet exercise.[37]

niscent of the confusion discovered by Rand analyst Daniel Ellsberg in 1959 (see Chapter 5). A 1970 Congressional investigation, for example, discovered nuclear-laden F-4 aircraft on full alert in two Far East countries (probably Taiwan and south Korea):

> Against whom? we asked. At a secret Pentagon briefing we were told the host countries initially had permitted us to station F-4 squadrons; the F-4s could carry both conventional and nuclear weapons; that [sic] F-4s were most cost effective when nuclear armed and the most efficient manner to be so armed was on 15-minute alert.[39]

If CINCPAC loses communications with Washington, he will likely board one of three EC 135J airborne command posts which sit in Hawaii. These flying command centers are alerted whenever U.S. forces reach Defense Condition (DEFCON) 2 or above (DEFCON 1 signifies preparation for all-out nuclear war; DEFCON 5 is peacetime).[40] At the best of times, reports former Presidential Security Assistant William Odom, the National Command will be dealing with strong-minded unified commanders who "are all going to be posing as the Napoleons of the modern age." [41] Faced with silence from Washington, the nuclear Napoleon in his underground bunker at Camp Smith in Hawaii or in an airborne command post would have to judge from isolated scraps of information whether to ride out the storm without firing his nuclear weapons or to head straight into the hurricane with an all-out attack.[42]

Supporting the Means of Annihilation

Specialized supply and storage arrangements are required to support the means of annihilation.* Throughout the 1960s, nuclear weapons were secretly stored ready for use throughout the Pacific. In one case, the "President of a Far East ally" did not know that the U.S. had nuclear weapons stored on its soil.[43] A 1970 Congressional investigation found that the chief U.S. military officer and the American ambassador did not know whether or not nuclear weapons were stored in Taiwan. And

* The other major nuclear support function in the Pacific is missile testing. See Chapter 13 for description of the Pacific Missile Range.

the Japanese leadership has feigned ignorance over the years of the stationing and transiting of nuclear weapons.

Today, nuclear weapons are stored only in Guam, Hawaii, Alaska (the Aleutians), south Korea, possibly Diego Garcia, and aboard nuclear-certified ships and aircraft. In major forward bases such as the Philippines and Yokosuka (as well as at sea), nuclear weapons may be routinely transferred between launch platforms ("cross-decked"). So prominent are nuclear supply, transfer, and replenishment operations in the Pacific that more than 2,000 Navy and Marine personnel are assigned full-time to nuclear weapons security.*[44]

Nuclear weapons are transported to U.S. bases by the Military Airlift Command, or delivered in parts or assembled to underway ships from shore by aircraft, munitions supply ships, and helicopters.[45] Although south Korea offered Cheju Island as a major storage site when Okinawa reverted to Japanese control, modern airlift for nuclear weapons combined with aerial refuelling enables Guam, Alaska, or Hawaii to serve as convenient rear bases for nuclear weapons.

Nuclear deployments are also supported by intelligence systems. These systems allow the U.S. to monitor Soviet weapons development, note changes in the alert status of the forces, and identify new and confirm old targets. Some systems will serve nuclear warfighting forces until the sensors and supporting communications infrastructure are consumed by nuclear war.

CINCPAC's Intelligence Center, Pacific (IPAC) manages the Pacific Command Targeting Program. This program provides commanders with detailed target information and matches nuclear weapons to designated targets. The Target Action Group of IPAC coordinates all the information processing, and maintains the Pacific portion of the global Automated Installation Intelligence File and Target Data Inventory.† The Navy's Fleet Intelligence Center Pacific at Pearl Harbor also provides "direct support and assistance to CINCPACFLT [Commander-in-Chief, U.S. Pacific Fleet] which will enable him to fulfill his requirements for nuclear weapons employment and planning."[47] Once early warning satellites and radars independently confirm that the nuclear

* Many of these personnel may be assigned to guard nuclear weapons on ships.

† The latter is presumably a central repository for updating the overall target plans for U.S. global nuclear forces.[46]

missiles are flying, only "real-time" intelligence flows to warfighting forces will be relevant, and these will last only until shortly after the first missiles arrive.

CINCPAC's command post operates the Nuclear, Biological and Chemical Warning and Reporting System (NBCWRS) to detect attack throughout Pacific Command. During and after a nuclear war, central collection centers at the surviving commands or CINCPAC-designated Defense Representatives in allied countries are to locate any reporters still capable of reporting from U.S. command posts, bases or units (see Table 12.2). These observers are instructed to send reports of nuclear events by any means possible to CINCPAC. The system is activated and tested without notice every three months.*[49]

CINCPAC has special codewords for nuclear intelligence reports (shown in Table 12.3). Combined with the geographical range of the Warning and Reporting System, the events signified by these codewords indicate the scope of nuclear war planning in the Pacific. In the mind of no less than the Commander-in-Chief, Pacific, *all* countries with U.S. bases or stations providing substantial support for U.S. forces are evidently potential victims of the full range of nuclear attacks and accidents.

Communicating Nuclear Commands and Intelligence

As with all modern war, nuclear annihilation is a communications-intensive activity. In a nuclear war, intelligence from early warning satellites, early warning radars, conferences between commanders, and attack, targeting and re-targeting orders will crowd the military airwaves. Nonetheless, according to defense analyst Desmond Ball, the U.S. national command can transmit the fire order to CINCPAC or directly to nuclear forces over no less than forty-three communications routes, in most cases via radio. Even if substantial portions of the communications architecture are inoperable at the outset of a nuclear war,

* CINCPAC also operates the Pacific Command Airborne Reconnaissance for Damage Assessment (PARDA) system which can direct any available military or civilian aircraft to investigate a nuclear explosion.[48]

the Minimum Essential Emergency Communications Network* is designed to provide redundant "bare-bones" communications between the national command and CINCPAC.[50] At least some of the nuclear Emergency Action Messages are therefore almost certain to arrive.

It is equally certain that most Pacific communications will collapse immediately after nuclear war starts. Command, intelligence, and communication bases will be high priority targets as both sides strive to decapitate their enemy, thereby destroying their nuclear targeting, damage assessment, and retaliation capabilities. This vulnerability ensures that it is highly unlikely that a protracted or even a limited nuclear war could be reliably commanded or controlled, although the nuclear bugle call would almost certainly activate a major retaliatory strike under any circumstances.

Specific anti-communications weapons are being developed over the Pacific Missile Range to knock out Soviet satellites with F-15-launched non-nuclear missiles.[51] Such pre-emptive attacks would give the U.S. a short extra period to transmit nuclear fire orders and collect intelligence before the Soviets attacked U.S. communications satellites in low-altitude orbit.[52] With support from its space tracking facilities, U.S. anti-satellite attacks could be launched from a southern hemisphere airfield to catch the Soviet satellites when they swing close to earth.[53]

Nuclear Tripwire in Korea

In addition to scenarios for an all-out nuclear war, American strategists also prepare for lesser nuclear contingencies. They view all-out nuclear war as the top rung of a ladder which starts with limited (non-nuclear) war, moves to limited and then theater nuclear war. These rungs, in their eyes, are clearly defined and one can choose to climb up or descend the escalation ladder.

* VLF/LF radio to submarines, and HF/VHF/UHF/SHF radio to the bombers, fleet, and anti-submarine aircraft. The Network's elements in Pacific Command are the CINCPAC airborne command post, the Navy (VLF/LF) and Air Force (HF/UHF) radio systems backed up by naval (VLF) airborne transmitters, and Air Force missile-borne (UHF) communications.

Table 12.2:
Nuclear Biological Chemical Warning and Reporting System in Pacific Command

Responsible Commander	*Primary/Alternative Command Centers*	*Geographic Area of Responsibility*
Commander-in-Chief, Pacific Fleet	Commander, U.S. Navy Marianas/ Strategic Air Command 3rd Air Defense	Guam, Wake Is., Trust Terr. of the Pacific Islands (Caroline, Marshall, Gilbert, Mariana Islands) and U.S. Navy afloat
Commander-in-Chief, Pacific Air Forces	13th Air Force/Commander, Subic Bay Naval Base	Philippines
Commander, Western Command	Western Command/Hawaii Command	Hawaiian chain, Johnston, Midway Islands
Commander U.S. Forces, Japan	Commander U.S. Forces, Japan/ Commander, Naval Forces, Japan	Japan, Okinawa, Taiwan
Commander U.S. Forces, Korea	Commander U.S. Forces, Korea/ 314th Air Defense	Korea
Commander-in-Chief, Pacific	CINCPAC Command/Alternate Command/Airborne Command Post	Australia, New Zealand, Diego Garcia, Antarctica, through American embassies, Military Attaches, Military Assistance Groups, CINCPAC representatives[a]

Table 12.2: (cont)

Note: a. CINCPAC's Defense Representatives in Australia (U.S. Air Force Liaison Officer), New Zealand (U.S. Defense Attache), and Southwest Pacific Islands (U.S. CINCPAC Representative, Southwest Pacific) may serve as Reporting Activities for the System.
Sources: CINCPAC, "Visits by Senior U.S. Military and Civilian Personnel to U.S. Military Installations and Activities in PACOM", Effective Instruction 5050.2F, June 25, 1982; and "Pacific Command Nuclear Biological Chemical Warning and Reporting System (Short Title: PACOM NBCWRS)", Effective Instruction 3401.3J, February 6, 1981, p. I-1,2.

Nuclear weapons for "limited" war are part of the daily practice of every service in Pacific Command and could be used in at least two contexts – Korea and a naval war.

The Demilitarized Zone (DMZ) of the Korean Peninsula is the most militarized place on earth. On each side of the DMZ are nearly a million heavily armed troops. Since only a truce was negotiated in 1953, north and south Korea are still technically at war and tensions remain high. Korea is the volatile powderkeg of the Pacific, the place where war may break out with only minutes notice – and the most likely site for the use of nuclear weapons.

The Army keeps nuclear weapons on hand in Korea to stun or stop an attack from the north. Under heavy attack, states the U.S. Army *Field Manual*, "nuclear weapons provide the urgently needed tactical edge in combat power that is required for a successful defense." [54] In a nuclear war, U.S. forces could use Atomic Demolition Mines and nuclear artillery[55] in approved "packages" over a specified area and period. A hypothetical nuclear "package" in south Korea might include two atomic demolition mines, thirty artillery, and five or ten aircraft-delivered nuclear weapons.[56]

Atomic Demolition Mines (ADMs) are the centerpiece of the "limited" nuclear arsenal in south Korea. Up to twenty-one ADMs are reportedly stored in south Korea, ready to be placed in underground tunnels near or under the Demilitarized Zone.* These small nuclear weapons are intended, according to the Army, to "block avenues of approach by cratering defiles [narrow valleys] or creating rubble; sever routes of communication by destroying tunnels, bridges, roads, and canal locks; create areas of tree blowdown and forest fires; crater areas including frozen bodies of water subject to landings by hostile airmobile units, [and] create water barriers by the destruction of dams and reservoirs." [59]

Specially trained Marines or Army Special Forces can explode ADMs with a timer or by remote control to halt advancing tanks with impass-

* According to defense analysts Richard Fieldhouse and William Arkin, in early 1985, the U.S. Army had sixty gravity nuclear bombs, forty 203 mm and thirty 155 mm nuclear artillery shells, and twenty-one atomic demolition mines stockpiled at Kunsan Air Base in south Korea.[57] Elsewhere, Western Command has referred to "deletion of mission requirements . . . to maintain . . . 8 inch (203 mm) weapon systems" in nuclear-capable units, indicating that the 203 mm shells may have been retired in mid-1984.[58]

able craters. Along the way, notes an Army writer, considerable damage will be inflicted on villages in valleys where ADMs are used.[60] U.S. F-4 and F-16 fighter jets in south Korea are also nuclear-capable, and their gravity bombs are stored at Osan and Kunsan airfields.

The U.S. Army is prepared for nuclear war in the Pacific. All Army units – including those in south Korea – have set up an "NBC [Nuclear Biological Chemical] Control Party", which aims to achieve "a high degree of NBC readiness" and during combat, to "coordinate the NBC defense efforts." Each company in Korea also maintains an "NBC Defense Team", "for detection, monitoring, and decontamination."[61] NBC training exercises are held under "realistic battlefield conditions," including "simulated friendly employment of nuclear/chemical weapons and enemy employment of NBC weapons."[62] Since north Korea does not have nuclear weapons, the Army evidently anticipates Soviet or Chinese entry into a war in north Korea, or a spillover into Korea of a battle in the North Pacific.

In addition to its general forces, the Army's units responsible for delivering nuclear warheads also train constantly for nuclear war in south Korea. The nuclear-capable artillery battalion at Uijongbu, for example, conducts quarterly exercises and training "to emphasize tactical realism to the maximum extent possible."[63] "Nuclear training," states the Army's Western Command, "must be integrated into the total training program without detracting from either the [unit's] nuclear or conventional capabilities" and should cover tactical movement, nuclear assembly, and control.*[64]

The Army can refer openly to the idea of waging a limited nuclear war in Korea because it faces far fewer political constraints than in Europe. In January 1983, U.S. Army Chief of Staff in Korea General Edward Mayer discussed the use of nuclear weapons. The general blurted out, "It's far simpler here than in Europe where consultations have to be made with fifteen different sovereign nations."[65]

For the U.S. military, nuclear weapons on the DMZ deter the north Koreans from "invading" the south. As former U.S. Commander in Korea, General Richard Stilwell, wrote in 1977: "Encamped between the demilitarized zone and any logical military objectives, he [the U.S.

* The directive that the nuclear training should not detract from conventional capability underscores the reality of "deadly connection": virtually all offensive units in the U.S. military are *dual* capable.

Table 12.3:
Codewords for Reporting Nuclear Attack and Events in Pacific Command

Codeword	*Signifies*
PINNACLE NUCFLASH	Nuclear event affecting U.S. national interest with a risk of nuclear war such as accidental, unauthorized launch of nuclear-armed/nuclear-capable missile in direction of Soviet Union or China[a]; unauthorized flight or deviation from flight plans of nuclear-armed/nuclear capable aircraft with capability to fly to Soviet Union or China; early warning system detection of threatening unidentified object or interference.
PINNACLE FRONT BURNER	Any attack, harassment of U.S. forces.
PINNACLE BROKEN ARROW	Nuclear weapons event without risk of nuclear war, but with nuclear explosion, non-nuclear destruction, radioactive contamination, seizure, theft, or loss of nuclear weapon.
PINNACLE EMERGENCY DESTRUCTION/DISABLEMENT	Report on nuclear weapon destruction/disablement operation
PINNACLE EMERGENCY EVACUATION	Report on emergency evacuation of nuclear weapon.
PINNACLE COMMAND ASSESSMENT	CINCPAC assessment of actual or developing crisis.
OPREP-3 BENT SPEAR	Operational report of a nuclear weapon incident not covered by NUCFLASH or BROKEN ARROW.

Table 12.3: (cont)

OPREP-3 FADED GIANT	Reactor or radiological accident.

Note: a. As occurred in 1960 when an aberrant Matador nuclear missile headed for China from the Taiwan Straits.
Sources: CINCPAC, "Pacific Command Nuclear Biological Chemical Warning and Reporting System", Effective Instruction 3480.6F, April 14, 1982, p. I-1–3; U.S. House of Representatives, Committee on International Relations, Subcommittee on International Security and Scientific Affairs, *First Use of Nuclear Weapons: Preserving Responsible Control* (Hearings), U.S. GPO, Washington, D.C., 1976, p. 202.

ground soldier] constitutes the real earnest of U.S. investment in deterrence." [66] The military believe that if a north-south war erupts, nuclear weapons would be used immediately on the "use them or lose them" imperative. In this logic, the question of escalation simply does not arise since the nuclear weapons should deter war from breaking out. If, in fact, a war does embroil Korea again – and it well might – nuclear weapons would pose a dilemma for the U.S.,* since their use would run a high risk of escalation. As strategic analyst William Overholt notes:

> The choice would be between [politically] unacceptable use of the weapons and the unacceptability of withdrawal under fire. This dilemma would be greatly enhanced if the weapons were stationed relatively far forward and therefore the decision became necessary almost immediately after the initiation of what would likely be a surprise attack.[68]

While U.S. military leaders believe that limited nuclear war can be controlled by using "small", short-range nuclear weapons that do not threaten the Soviet Union directly, experienced commanders are less sanguine. Former CINCPAC Admiral Noel Gayler warned:

> It is very difficult to think of using nuclear weapons [in Korea] in a way which doesn't contain the seeds of escalation. There will be backers [the superpowers] again in a war on the Korean Peninsula and a strong political temptation to raise the ante when either side are involved. The step from a nuclear war involving our proteges, as it were, and nuclear war between ourselves [the superpowers] is a very narrow one, a very dangerous one.[69]

* If nuclear weapons in south Korea were about to be lost to the Korean rebels or northern forces, current commanders have apparently been ordered to destroy the nuclear weapons without nuclear yield if the weapon cannot be evacuated.[67] This is a change from the situation in the 1950s, when commanders were ordered to first evacuate, *then use*, and only if use was impossible, destroy the weapon (see Chapter 5). This apparent change in procedure does not change the withdrawal/use choices confronting the President under the pressure of time and the heat of battle.

Naval Shootout

A naval war between U.S. and Soviet Pacific Fleets is a second situation which nuclear strategists think is suitable for a "limited" nuclear war. In a major study of naval strategy for the ascending U.S. navalists in 1977, Paul Nitze referred to the "growing and inevitable linkage" between conventional and nuclear weapons in naval war: "The restricted use of nuclear weapons at sea carries neither the degree of moral stigma nor the threat of further escalation that applies to their use against land targets." [70]

Since nuclear weapons have never actually been used in naval war, Nitze's perceptions of social morality and escalation risks are little more than his own opinion. Nonetheless, Nitze's assessment that nuclear war at sea will not destroy cities or civilians and will not escalate to land attacks became the basis for maritime policy. To implement the idea that nuclear war can be fought – and contained – at sea, the Navy has begun to "harden" its ships and aircraft for nuclear war.[71]

When naval strategists talk about limited nuclear naval war, they usually have the Northwest Pacific in mind. U.S. naval planners are, in fact, nearly obssessed with the "Vladivostok strike scenario" – an assault on the homeport of the Soviet Pacific Fleet. According to the Joint Chiefs of Staff 1983 *Posture Statement*, in the event of war, a major U.S. advantage is the ability of American forces – including those in Japan and Korea – to bottle up the Soviets' Pacific Fleet at Vladivostok.[72] To get from Vladivostok to the open Pacific, the Soviets must pass through one of three straits, the widest of which is only 160 km across. Under U.S. naval doctrine, this American advantage would be translated into concentrated attacks by the U.S. Fleet, "which would try to outmaneuver the opponent and to overwhelm him in one location rather than fighting all across the vast expanses of the Pacific Ocean." [73]

A holdover from World War II, the concept of a stand-off naval battle in the nuclear age is incredible and contradictory. The Soviets have emphasized repeatedly that, under conditions of local inferiority, they would have no choice but to escalate to all-out nuclear war.

"Limited" war, in short, undermines the logic of deterrence, as Richard Perle, the Pentagon's key nuclear hawk, found in 1983. "We would not permit the Soviet Union to confine a nuclear war to the sea," Perle told Congress, since that would mean abandoning the policy of

escalated retaliation and allowing Soviet land-based bombers to freely attack U.S. forces.*[75] Despite the contradictions, the Navy is proceeding with its plans for nuclear war at sea.

Modernizing the Means of Annihilation

CINCPAC is modernizing the nuclear forces in the Pacific.[76] This nuclear upgrade includes the Tomahawk nuclear cruise missile, 155 mm artillery shells for the Army and the Marines, and Trident I ballistic missiles. Ground and air-launched cruise missiles remain under active consideration and in 1991, the first Ohio submarines in the Pacific Fleet will be retrofitted with Trident II missiles. According to Admiral Clark, Trident II missiles are designed to give U.S. submarines "a hard target kill capability which we do not now have." [77]

The U.S. Defense Nuclear Agency is also studying how to "enhance" the survivability, security, employment, and modernization of the Pacific Command's "theatre" nuclear weapons for naval or land-attack nuclear war.[78] This study will provide "automated nuclear weapon planning tools" (presumably computerized warning, targeting, and damage assessment) to CINCPAC's nuclear war planners. Another Pentagon office is studying Soviet views on nuclear war in the Pacific to develop operational concepts, which in turn will allow U.S. forces to shadow-box with Soviet forces in the Pacific.[79] Recognizing the vulnerability of the Pacific's communications architecture, the Pentagon is "upgrading" the system to ensure its survivability during a nuclear war.† The Pentagon has discussed these programs in jargon-laden Congressional testimony:

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* Perle stated that the policy rests on three principles: "First, the essence of deterrence is that our retaliatory capability must raise incalculable risks to any potential aggressor; in this regard, we have never [security deletion] confine[d] our retaliation within the boundaries of any particular theater . . . Secondly, it is a fact that we and our allies are far more dependent on using the sea than our potential adversaries . . . [Thirdly, agreeing] to confine a nuclear war to the sea would in essence allow the Soviets to operate nuclear strikes against our naval forces from a sanctuary of land-based airfields, and this would undercut both deterrence and defense." [74]

† Including numerous mobile satellites, ground terminals and new, state-of-the-art HF radio stations (for example, in Hawaii).

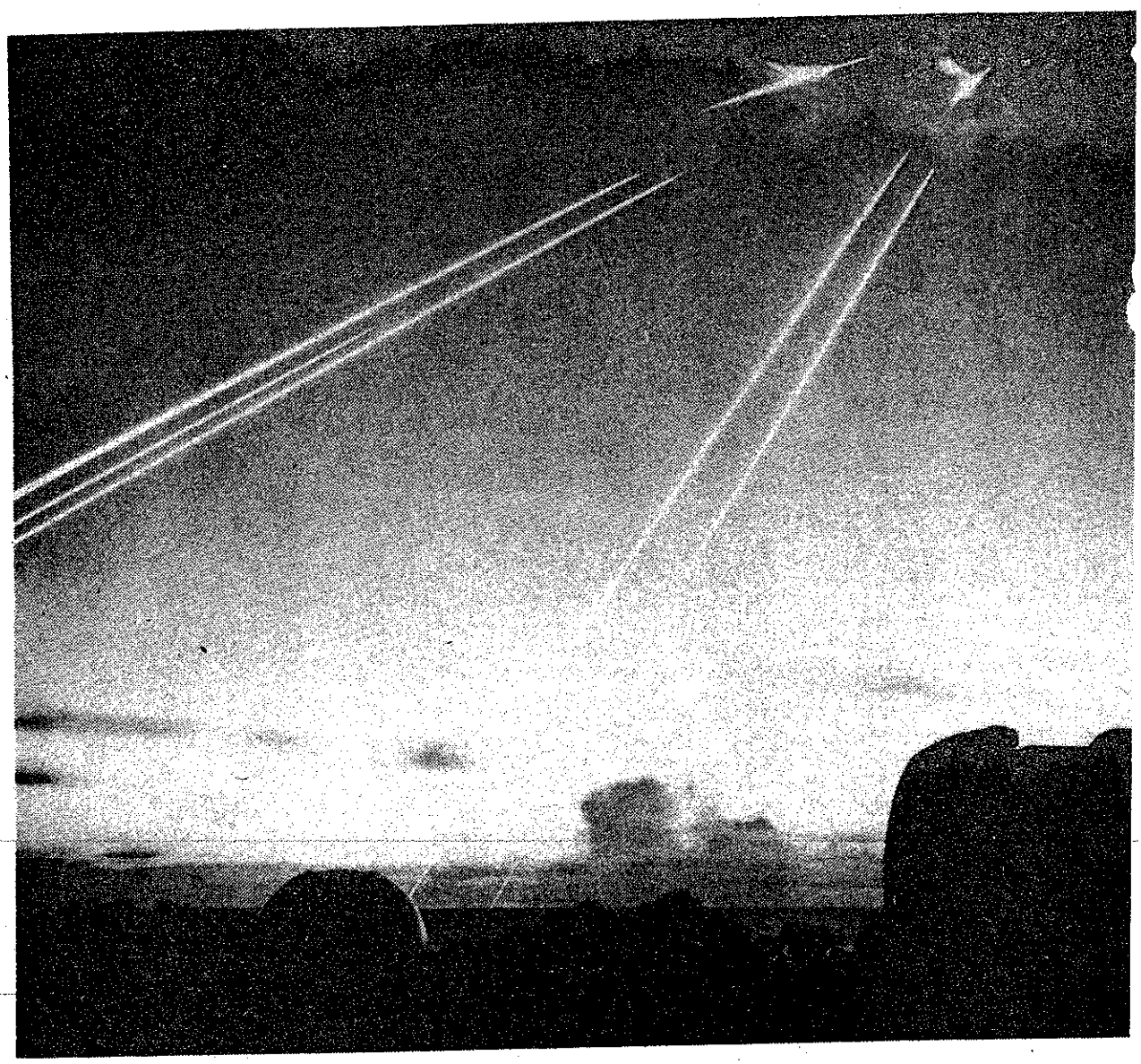
U.S. Pacific Command as part of its program directed toward modernization of Non-Strategic Nuclear Forces . . . has requested DNA [Defense Nuclear Agency] to conduct research that would lead to insuring that nuclear C^3 systems are responsive to needs of those forces. *This DNA research has identified future C^3 system requirements that will insure survivable and endurable C^3 in a nuclear environment.* A complementary Defense Communications Agency program, the Non-Strategic Nuclear Forces System Program Plan, identifies the specific system hardware capabilities need to support the nuclear C^3 systems requirements.[80]

Given the crucial role of communications and directing the U.S. nuclear arsenal, such programs amount to an admission that the Pentagon is planning for a protracted nuclear war.

Moreover, in 1982, Pacific Command proposed the redeployment of U.S.-based "existing assets" to the Pacific, military jargon for moving stockpiled nuclear weapons from the continental U.S. to Pacific Command. Dr. Richard Wagner, a nuclear specialist from the Pentagon, described this action as a "very nice step." [81]

But the most dangerous additions to the Pacific nuclear arsenal in the near future are already on the visible horizon. These are the refinement of missile capability at the Pacific Missile Range, and the deployment of Tomahawk cruise missiles.

Re-entry vehicles from Minuteman missile-test plunge into the atmosphere over Kwajalein Atoll, 1979
(Pentagon)



THIRTEEN ☆ PACIFIC MISSILE TEST LABORATORY

Yesterday evening my husband Ataji Balos was arrested while peacefully leading Marshallese people living on their own land on Kwajalein Atoll. At this moment, hundreds of Marshallese people are peacefully living on their own islands at Kwajalein, Roi-Namur and several small islands within the mid-atoll corridor missile hazard area. These people include women and very small children. Tomorrow the Air Force has scheduled an operation which endangers these people.

—Alice Balos, June 21 1982[1]

If we didn't have Kwajalein, we wouldn't be able to test such long-range stuff over open, largely uninhabited areas of the earth's surface. So it's important to have a place like this in the middle of the Pacific Ocean.

—Pentagon official, 1985[2]

The Pacific has served as America's major site for testing and modernizing nuclear weapons and delivery systems since the dawn of the atomic age. In addition to the valuable information gained from the annihilation of Hiroshima and Nagasaki, the U.S. obtained data after the war by dropping bombs on its new Trust Territory in the North Pacific. Between 1946 and 1958, sixty-six nuclear tests were conducted in the Marshall Islands in Micronesia.[3]

To conduct these tests, the U.S. military relocated some of the Islanders from their ancestral homes and exposed others – along with

American servicemen and Japanese fishermen – to high levels of radiation. Whole islands were vaporized or made forever uninhabitable.

Christmas Island in the mid-Pacific was also used for U.S. nuclear tests, as new missile technology became available. Beginning with *Operation Dominic* in 1962, there were some forty tests,[4] including one with a Polaris missile fired from a submarine off the coast of California, which exploded a half-megaton bomb over the island.[5] The U.S. also launched five missiles from Johnston Island straight up to a high altitude where the warheads exploded in the atmosphere. During one of these *Bluegill Prime* tests, the Thor rocket misfired and was blown up before lift-off, scattering plutonium over the island.[6]

The most remarkable test was *Starfish*, a 1.4 megaton explosion* at an altitude of 400 km over the mid-Pacific on July 9th, 1962. The explosion "lit the sky all the way to Hawaii and Australia", destroyed satellite equipment, blacked out radio communications, and popped streetlights in Hawaii. It also modified the immense Van Allen radiation belt† around the earth itself.[7]

By the time the Atmospheric Test Ban Treaty was ratified in 1963, the U.S. was ready to switch the emphasis of its test program from perfecting nuclear explosions to refining nuclear delivery systems.

Pacific Missile Range

The first long-range U.S. nuclear missiles were tested over the Pacific in 1959 when an Atlas D missile blasted off from Vandenberg Air Force Base in California.[8] Today, the Pacific Missile Range‡ (PMR) extends 7,200 km from the California coast to Kwajalein Atoll in the Marshall Islands, located in the central Pacific just north of the equator. Missiles

* The Hiroshima bomb was 12.5 kilotons.

† The belt is an immense cluster of charged particles held in space by the earth's magnetic field in two belts extending from 800 km to 32,000 km altitude.

‡ PMR is an amalgam of the Navy's PMR, extending only a short distance off the California coast, the Air Force's Western Test Range, which stretches all the way from Vandenberg to Kwajalein, and the Army's Kwajalein Missile Range, at Kwajalein itself. In addition to testing missile delivery systems, PMR in California is also ideally located for launching U.S. satellites into polar orbits without endangering land areas with a rain of burnt-out booster rockets or debris in the case of failure.

are fired from Vandenberg and Point Mugu Naval Base in California, tracked in flight by stations on Johnston and other islands, and splash down in the lagoon of Kwajalein Atoll (see Map 13.1).

One of the few major Marshall Islands spared during the post-war testing program, Kwajalein is covered with camera, radar, and sonar equipment to determine the precise re-entry point of the missiles plunging into the lagoon (see Map 13.2). Besides accuracy, the range and payload of missiles are attributes which make nuclear weapons increasingly lethal. It is precisely these characteristics which are tested over the Pacific Missile Range. According to New Zealand defense analyst Owen Wilkes, Kwajalein has contributed more to the arms race than any other place on earth.*

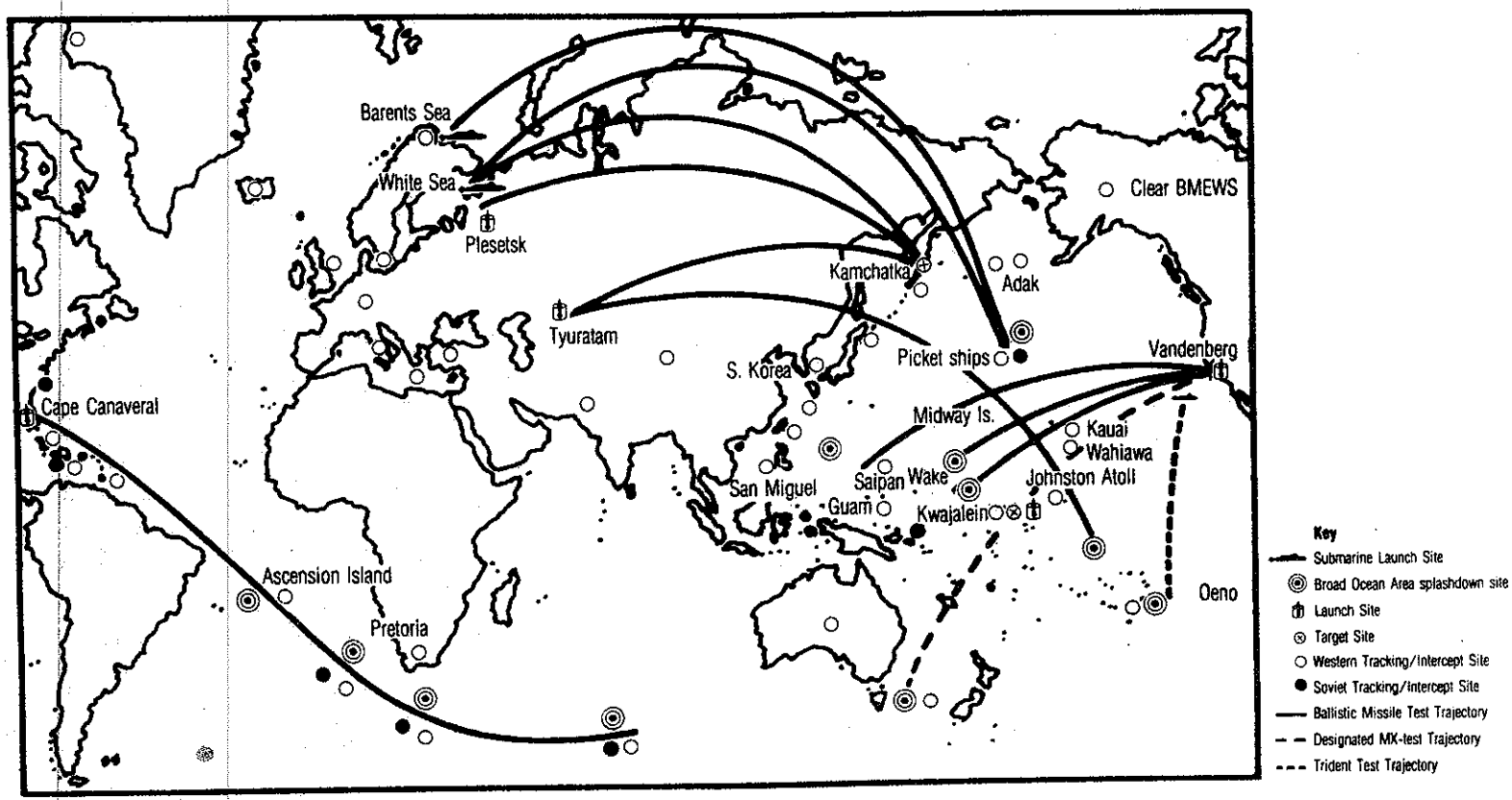
To gain maximum maneuverability along a 60 km-wide overflight corridor, the U.S. relocated 328 Kwajalein Islanders to Ebeye Island. With no high school, hospital or sewage system, and such a severe housing shortage that people live thirteen to a room, Ebeye has been dubbed the "slum of the Pacific." [10]

In March 1970, 200 islanders conducted a "sail-in" in the face of a series of missile tests. Although Army Security suppressed news coverage, the occupation won an initial financial settlement from the military.[11] During the late 1970s, the Kwajalein land-owners again organized protests to win control of their islands and increase the low rents the U.S. paid for use of Kwajalein. In 1982, they occupied islands used for testing for over three months in an action they called "Operation Homecoming".

Coinciding with pending changes in the political status of Micronesia, still a U.S. Trust Territory, the protests created a climate of political uncertainty. As early as 1975, the military considered defusing the problem by relocating the Islanders from Ebeye to the far northern atoll of Bigej.[12] The study was updated in 1978 and 1981 but the marginally changed missile course would have been even more dangerous than the one currently in use. As a 1981 military study noted: "Even with the *existing* corridor, certain target points may be unacceptable from a safety viewpoint." [13]

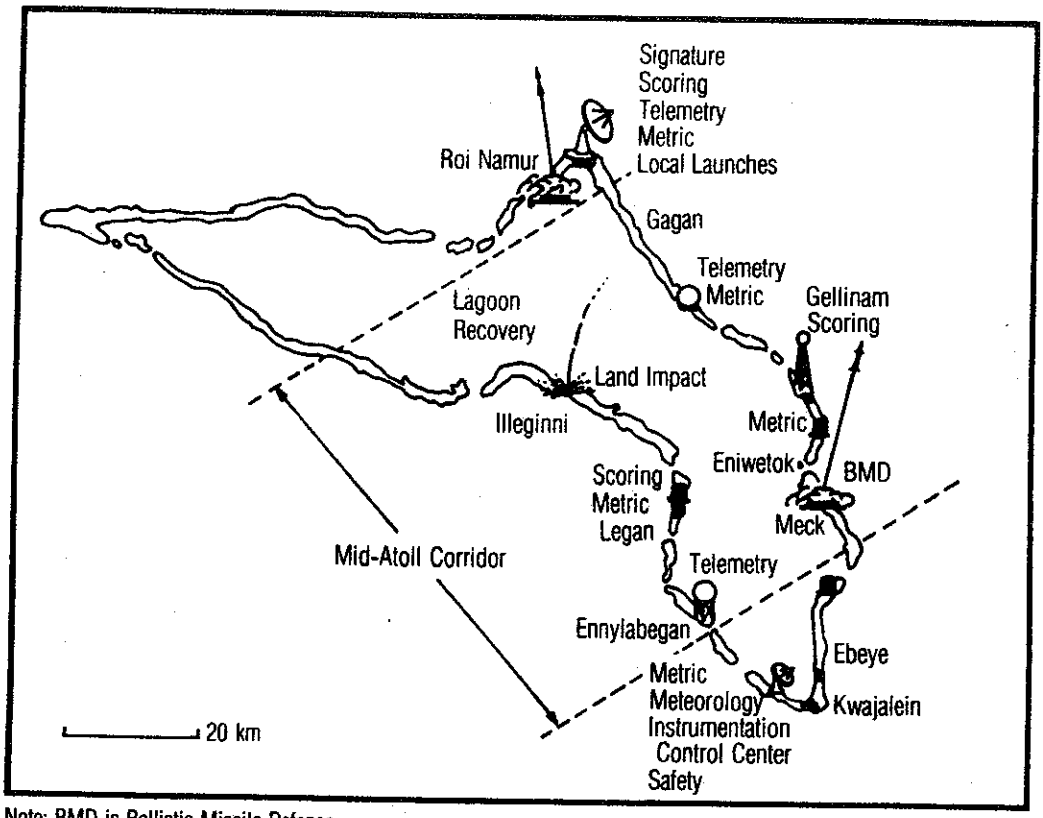
* The Pacific range offers much better instrumentation and less risk to populations in case the missile goes awry than the Atlantic Missile Range,[9] which fires in a southeasterly direction from Cape Canaveral in Florida.

Map 13.1:
Pacific Missile Test Ranges



Note: BMEWS is the Ballistic Missile Early Warning System.
Source: *SIPRI Yearbook, 1980*, Taylor and Francis, London, p. 294.

Map 13.2:
Kwajalein Missile Range



Note: BMD is Ballistic Missile Defense.
Source: Stanford Research Institute International, *Strategic Systems Tests Support Study* (SSTSS), report to U.S. Ballistic Missile Defense Systems Command, Alabama, 1981.

Given the enormous cost and effort involved, relocation of the U.S. military from Kwajalein and the other islands currently used for missile tests seems highly unlikely. Furthermore, in 1983 the Marshall Islanders voted to accept a Compact of Free Association with the U.S. which permits continued testing in Kwajalein. While bickering over rentals and terms is likely to persist, the resolution of the sovereignty issue may have defused the independence movement, at least in the short term. Nonetheless, the future of Kwajalein is far from clear.

Even more than political problems, technical necessities have prompted American military planners to expand their testing horizons. Kwajalein is too close to California to test the new long-range missiles such as the MX, which has a 13,000 km range. According to a Congressional expert on strategic affairs, the Kwajalein site also generates a phony sense of accuracy: "If first you send weather balloons up and radio back what the wind is at 10 and 25 thousand feet, and you make [trajectory] corrections before you fire - based on information which you wouldn't have in an operating [i.e. warfare] environment - it means you have created a laboratory and not a realistic testing environment." [14]

Another technical limitation of the Kwajalein Range is that the missiles fly on an East-West trajectory, while in a war they would be fired at the Soviet Union over the North Pole.* The varying gravitational pull of the earth's crust and the angle at which the missile is fired across the earth's spin significantly affect the missile's accuracy. "If you're going to use [missiles] in a real environment, you've got to judge them in that real environment," emphasizes the Congressional expert. "That's a North-South, polar direction, not East-West." [16] To rectify these deficiencies, U.S. military planners have extended the testing range into the expanse of the Southwest Pacific.

* As a Pentagon official testified in 1978, "We have fired nearly all our missiles at Kwajalein with the exception of a few at Eniwetok, Canton, and Oeno. Supposedly, if we fought a war with Kwajalein, we would win hands down. On the other hand, we have not shot a missile at Russia, nor do we expect to, and the question is, is there some kind of effect which we don't know about?" [15]

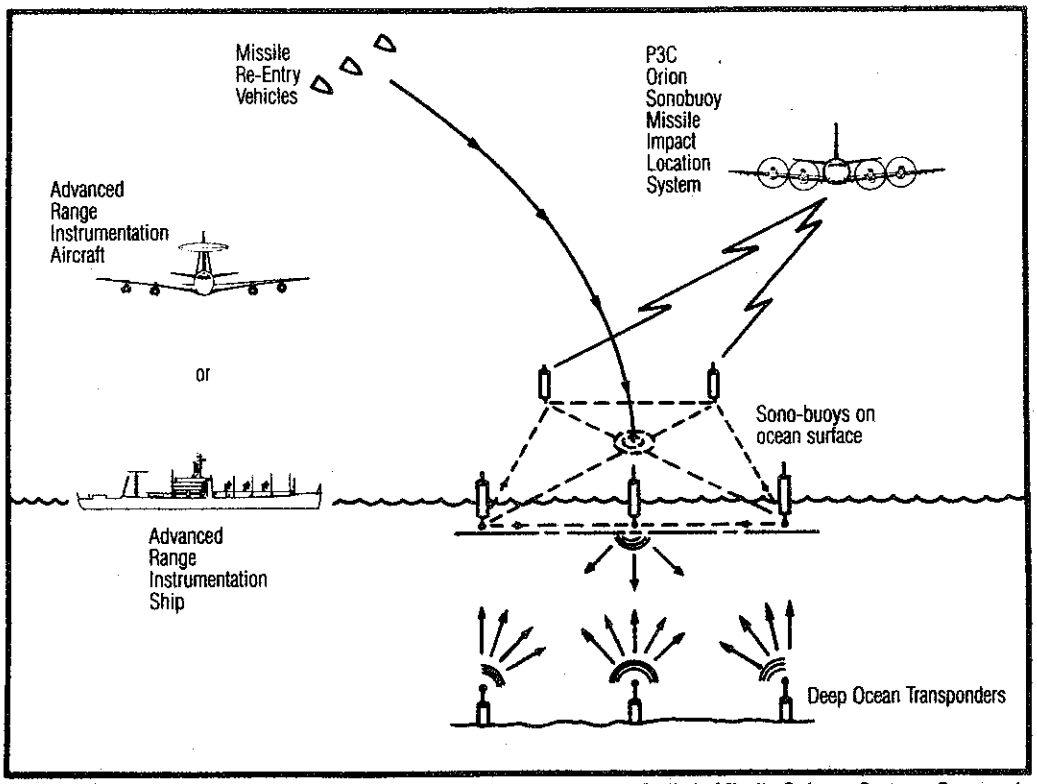
State-of-the-Art

The state-of-the-art testing procedure is to shoot the new long-range missiles such as Trident and MX into an open ocean with a shallow bottom (less than 1,000 m deep). Months or even years earlier, a survey ship positioned instruments called transponders on the seabed, which receive and send sound signals to sonar equipment on the surface. On the day of the test, P3C Orions and EC-135 ARIAs (Advanced Range Instrumentation Aircraft) fly above the missile impact point. The ARIAs collect radio transmissions from the re-entry vehicles as they plummet toward the sea. The Orions drop sonar buoys, which float on the surface like ears listening for the sound of the re-entry vehicles crashing into the ocean. The sonar buoys "interrogate" the transponders on the ocean floor with loud pinging sounds to set up a reference grid for the sonar sound patterns. The sonar buoys, in turn, listen for the splash of the re-entry vehicle and transmit this noise to the aircraft by UHF radio. The military claims that the impact point can be measured to within 15 m of its true "geodetic" splashdown position[17] (see Figure 13.1).

This new technique is already in practice. At least two of the six MX tests to date splashed into Broad Ocean Areas (BOA) in 1983, one of them 586 km northwest of Guam, well to the west of Kwajalein. In July 1984, a Trident I missile test hit a similar area, probably near Wake Island (see Table 13.1). Relying on U.S.-controlled islands for staging airfields, these tests went largely unnoticed. But U.S. plans to test MX and Trident missiles in the South Pacific have been delayed by local protests.

In November 1984, the authors revealed[18] that a recently declassified report on the future of the Pacific Missile Range indicated that the Pentagon was looking for new test sites in the West and the South Pacific. Specifically, the 1981 inter-service study had called for Trident I missiles "to be launched from the California waters into three different BOAs [Broad Ocean Areas], located near Wake, Chatham, and Oeno Islands."[19] Chatham Island is New Zealand territory and lies only 500 km east of its main islands. The Pentagon report also disclosed that the Navy's site for fixed Trident open-ocean tests is somewhere near Oeno Island, west of Pitcairn Island, which served as refuge for the *Bounty*'s mutineers, and is still a British possession. The Navy has officially stated that "Oeno" is a designated site for future Trident tests.[20] Oeno had

Figure 13.1:
Broad Ocean Area Splashdown Monitoring System



Source: SRI International, *Strategic Systems Test Support Study*, report to Ballistic Missile Defense Systems Command, Volume II, 1981, p. 80.

been used previously in past U.S. ballistic missile tests, at least for Trident I missile tests in the 1976–1977 period.[21]

The report also noted that the Pentagon had briefed the State Department in April 1981 on the need to secure staging airfields from South Pacific governments for Orion and ARIA aircraft. With a limited operating radius of only 2,500 km, the Orion needs nearby staging airfields. Military sources confirm that the U.S. State Department is currently negotiating with the French Government for transit rights through Tahiti airport, 2,500 km from Oeno.[22]

When New Zealand's Prime Minister David Lange got wind of the new U.S. approach, he declared: "If the United States sought New Zealand's agreement to firing such missiles into the Chatham Area, it would not be given." [23]

The report's most explosive revelation was that Sydney was also being considered as a possible staging area. In February 1985, the Australian *National Times* reported that the U.S. had set in motion plans for MX tests in the Tasman Sea between Australia and New Zealand.[24] The Liberal government of Malcolm Fraser had secretly approved the plan in 1981 and Labor's Robert Hawke had confirmed it – without informing members of his own cabinet and party – when he came to power in 1983.[25] The resulting outcry by the Labor Party and the public forced Prime Minister Hawke to suffer the embarrassment of reneging on the agreement while on a high-profile diplomatic visit to Washington.*[27] Amidst charges of incompetence and inconsistency, the pro-U.S. Prime Minister suffered a major foreign policy defeat which severely undercut his domestic political position.[28] In November 1985, the authors revealed that the Australian government was misinformed as to the relationship between satellite measurements by the U.S. Navy over the Tasman Sea and increasing American missile accuracy. In the

* The U.S. may substitute Advanced Range Instrumentation Ships for the ARIA aircraft, and sea-based sonar-equipped aircraft for land-based P3C Orions to conduct the Tasman MX tests, a precursor to the greater siting flexibility in the technology pipeline. The U.S. might also fall back on a system called "SADOTS", which relies on a seabed system of hydrophones which records the splashdown noise of the re-entry vehicles at a site off the coast of South Africa, which also limited the staging of P3C Orion aircraft. A ship would arrive prior to the test, activate SADOTS, and synchronize self-contained clocks on the seabed devices via noise signals. After the test, the ship would return and read out the recordings via its acoustic link.[26]

Table 13.1:
MX and Trident I Missile Tests into the Pacific, 1983–84

Missile	*Date*	*Impact Area*
MX	June 17, 1983	6 RVs into BOA north of Kwajalein
MX	Oct. 4, 1983	same
Trident I	Dec. 6, 1983	Wake Island
MX	Dec. 20, 1983	8 RVs in BOA 600 km northwest of Guam
MX	Mar. 30, 1984	10 RVs into Kwajalein Missile Test Range
Trident I	June 3, 1984	Wake Island
MX	June 15, 1984	6 RVs to Kwajalein Atoll
Trident I	July 2, 1984	BOA-1[a]
MX	Oct. 1, 1984	Kwajalein Missile Test Range

Key: RV = Re-entry Vehicles; BOA = Broad Ocean Area.
Notes: a. Likely near Wake Island.
Sources: Navy Office of Public Information, October 29, 1984; Air Force Office of Public Affairs, October 5, 1984.

resulting hubbub, the Australian government revealed that the U.S. had postponed the MX tests, presumably due to lack of staging facilities. If this is the case, it is the first time a major U.S. missile test has been abandoned due to opposition, representing a stunning victory for the peace movement in Australia.

The Tasman MX tests are likely to be aimed at showing that the new inertial guidance systems and the Mark 21 re-entry vehicle for the MX are accurate enough over the full MX range of 13,000 km to destroy hardened Soviet missile silos.[29] As such performance claims can never be proven, the tests will mostly reinforce the Air Force's "first strike" mentality. As one senior official in the MX-test program said, "While we can simulate the long-range capabilities of MX by varying the angle of re-entry over Kwajalein, we are curious to see whether all the models and engineering assumptions are correct, just to prove over the maximum range that we haven't overlooked some crucial error." [30]

The MX controversy also complicated Prime Minister Hawke's proposal for a Nuclear Free Zone in the South Pacific. Under his proposal, French nuclear tests would be banned, but nuclear warships, nuclear communications bases, and nuclear missile tests would not. To maintain his credibility, Hawke faced the very difficult task of persuading his South Pacific neighbors that French nuclear bomb tests are objectionable while U.S. nuclear missile tests are not.

Range Expansion

The new approach to missile testing has major political implications for the nations of the South Pacific. By placing temporary instrumentation in shallow ocean areas and recording the acoustics of missile splashdown with aircraft, the U.S. has dramatically expanded its Pacific Missile Range. In so doing, the U.S. may be in violation of international law. The Seabed Treaty prohibits placing weapons of mass destruction on the ocean floor and expressly forbids use of the seabed for any "facilities specifically designed for storing, testing, or using such weapons." [31]

Kwajalein offers cheap, highly instrumented testing and still serves as the base for the Army's Anti-Ballistic Missile test program.* The string

* Kwajalein also plays a role in Star Wars.

of radar tracking stations along the PMR cannot be easily replicated elsewhere (see Appendix A10). Rather than displacing the range at Kwajalein, the ocean area approach in fact expands it. As a 1982 review for the Space and Missile Test Organization concludes, the Western Missile Test Center at Vandenberg "will continue to support ICBM operational testing, advanced strategic missile systems, cruise missiles, and aircraft tests." [32]

In the late 1980s, the NAVSTAR navigation satellites will enable the U.S. to drop sonar buoys anywhere in the Pacific to determine the precise splashdown point of incoming re-entry vehicles.* [34] When that happens, the whole Pacific will become a U.S. missile test range.

* The sonar buoys will then communicate their information back to the U.S. via "satellite data relay systems" and communication satellites rather than by P3C aircraft.[33] At this time, communication satellite ground stations in allied nations will become heavily involved in tests of missiles such as the Trident II, especially in the Southern Hemisphere.

The first test-launch of the Tomahawk cruise missile, off the California coast, March 1980
(Pentagon)