

## Strategic Insight

### The Battle of Midway

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**June 4, 2002**

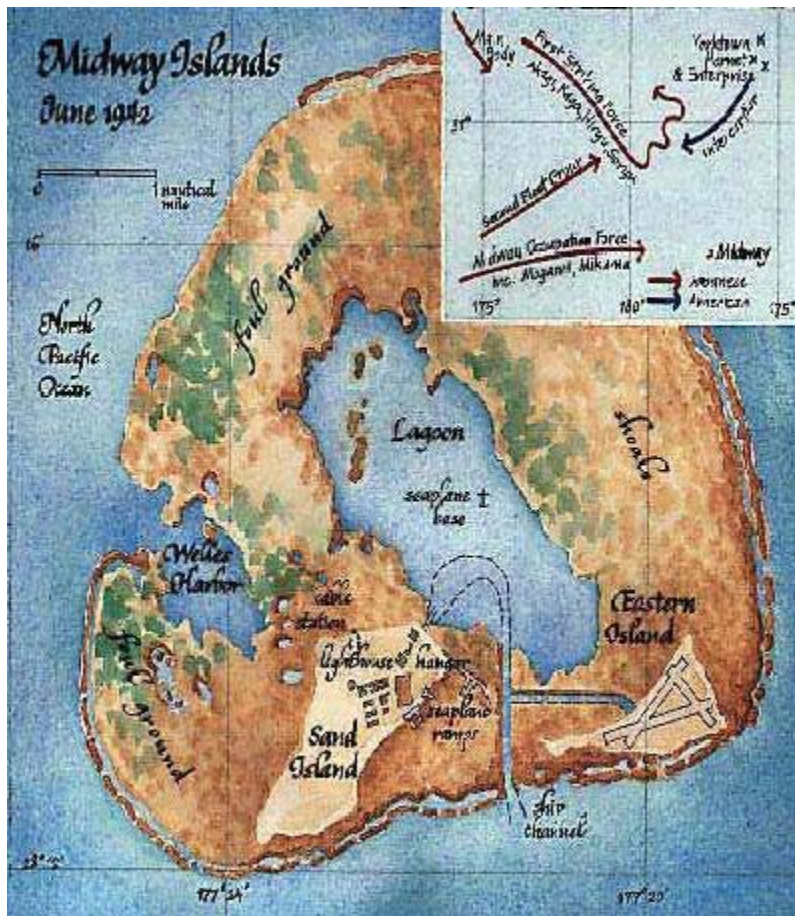
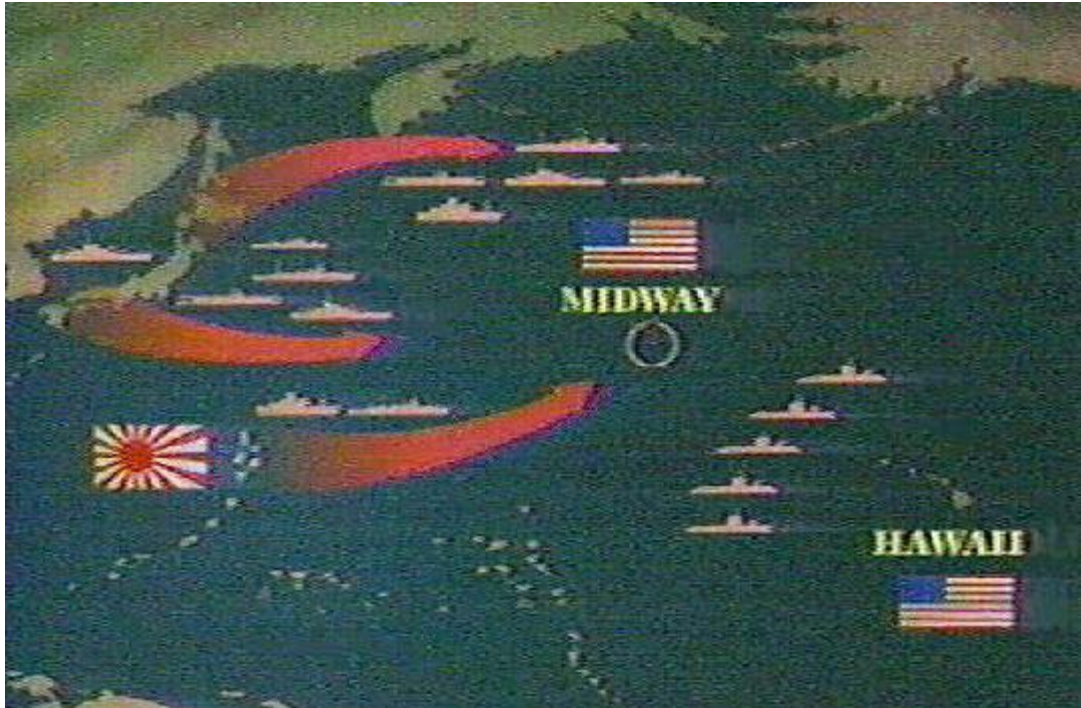
The Battle of Midway, fought between 4 and 7 June 1942, marked the turning point of the Pacific War. Until Midway, the Japanese navy, building on the 7 December 1941 surprise attack against the U.S. fleet at Pearl Harbor, held the strategic initiative. The Philippines, Singapore, Burma and the Dutch East Indies fell to the seemingly unstoppable Japanese juggernaut. After Midway, the Japanese march to victory turned to defeat. Midway so reduced Japanese carrier strength that henceforth the Rising Sun was condemned to react to the relentless American advance across the Pacific toward Japan's home islands.



*U.S. forces as they prepared to ambush the Japanese in Hawaiian waters*

Operationally and tactically, defects in U.S. command and control, the technical shortcomings of U.S. aircraft, and the inexperience of American pilots revealed at Midway have caused some historians to attribute the American victory to Japanese mistakes and sheer blind luck. While both factors certainly assisted the American triumph, the victory at Midway was in fact constructed on a solid framework of U.S. strengths unmatched by those of the enemy. These included the tactical brilliance of the untested and until then relatively unknown Rear-Admiral Raymond Spruance, the superiority of U.S. intelligence, and a forward-looking operational concept that saw the carrier task force, rather than the battleship, as the core and main organizing principle of fleet action. U.S. aircraft losses at Midway were significant largely because officers inexperienced in combat were condemned to fly obsolete aircraft. But the courage and perseverance of American pilots of all services in the face of technologically and tactically superior Japanese forces held out the promise that, once the materiel and tactical battlefield was leveled, they would sweep their adversaries from the skies.

The origins of the Battle of Midway lay in the Doolittle Raid of 15 April 1942. The specter of sixteen Army Air Force B-25 medium bombers, launched from the carriers Hornet and Enterprise that had crept to within 500 miles of Japan, in the skies over Tokyo delivered a severe psychological blow to the Japanese, one that exceeded by far the negligible physical damage left in Doolittle's wake. Humiliated by their failure to protect their homeland and their Emperor, the Japanese military resolved to invade Midway Island as a first step in completing the unfinished business of 7 December 1941. Admiral Isoroku Yamamoto concocted a complex plan that called for an amphibious attack supported by two carriers on the Aleutian Islands.



This feint was calculated to draw elements of the smaller U.S. fleet north. Simultaneously, Yamamoto divided his remaining naval forces into three groups that would approach Midway from separate directions -- a Midway Occupation Force of transports and escort vessels under Admiral Kondo Nobutake; a strike force built around four carriers and 261 aircraft commanded by Vice-Admiral Chuichi Nagumo that would soften up the island for invasion; finally, Yamamoto would lurk 300 miles to the west of Midway with three battleships and a small carrier (Main Body) to crush the U.S. fleet that, goaded by the attack on Midway, was expected to steam out from Pearl to be sunk in a climactic re-enactment of Tsushima. With the bulk of the U.S. fleet at the bottom of the ocean, Hawaii would lay defenseless. With their main Pacific naval base in Japanese hands, and the West Coast of the United States vulnerable to attack, Yamamoto calculated that the United States would sue for peace. At a minimum, the Japanese would have denied Americans use of the Aleutian and Hawaiian Islands, which contained bases they mistakenly suspected had been used to launch the Doolittle raid.

As the weaker power, Yamamoto believed that Japan must land a crippling blow on the U.S. Navy early on, rather than wait passively until superior American strength was brought to bear. The Japanese Admiral's strategy was sound in that it sought to make time work for Tokyo. But Yamamoto's meticulous calculations collapsed on the operational level because his battle plan contained at least three critical defects. First, he assumed that, as at Pearl Harbor, he would command the advantage of surprise. But the idea of a Japanese surprise naval strike against the Hawaiian Islands was no longer novel after Pearl Harbor; U.S. naval intelligence analysts were doing everything in their power to detect Japanese intentions, especially evidence that a major attack against Hawaii was in the works. Because his ships were dispersed, Yamamoto broadcast his plan for the Midway operation by radio in an outdated code that had been broken by U.S. intelligence, an indiscretion that was pounced upon by U.S. cryptanalysts (see inset box below). As a consequence, the Americans were forewarned of the time, place and direction of Yamamoto's attacks, while inadequate Japanese reconnaissance meant that the Japanese Admiral had been left in the dark about the strength and disposition of U.S. forces. In particular, the Japanese had not counted on the appearance of the Yorktown, which they believed sunk during the Battle of the Coral Sea (4-8 May, 1942). Second, the Japanese admiral violated the principle of "concentration of force" by scattering his numerically superior fleet between the Aleutians and various point around Midway. This allowed them to be attacked piecemeal by Spruance. Finally, he looked to administer the coup de grâce to the U.S. fleet with a Mahanian-style battle fought between surface ships. Unfortunately for Yamamoto, Spruance planned to duel with planes, not guns. Yamamoto would never have the opportunity to bring his battleship force into the fight.

### Where is "AF"?

*In the aftermath of the terrorist attacks of 11 September, much attention has been focused on intelligence failure. By contrast, the American victory at Midway was the product of one of the greatest intelligence successes of all time. The story of the success is complicated, but one instance demonstrates that it is possible to "link the dots" by working with incomplete pieces of data to form a complete picture of what is about to transpire.*

OP-20-G, the Navy Signals intelligence shop at Pearl Harbor was under the gun in early 1942. These analysts listened to Japanese navy radio traffic to detect patterns of activity and to try to read coded messages transmitted by the Japanese. OP-20-G had failed to give any warning about Pearl Harbor, but with a war on, Japanese radio traffic had increased and they had gained "entry" into the Japanese Navy's code (JN25b). They were able to intercept about 60 percent of Imperial Navy traffic, read about 40 percent of intercepted messages and actually decode about 10 percent of the Japanese radio messages that used JN25b. By 6 May Navy analysts recognized that something "big was brewing": they intercepted and decoded a message suggesting Japanese were readying their aircraft carriers for a major operation. On 13 May they intercepted a message for a Seaplane unit to prepare to move to "AF."

Navy codebreakers knew that the term "AF" represented grid coordinates for a location on



secret Japanese maps and they suspected that it referred to Midway. To test their theory, they told the U.S. garrison at Midway via a secure underwater cable to radio "in the clear" that their water desalinization plant had failed. Japanese intelligence intercepted the message and on 16 May they broadcast a message in their JN25b code that "AF" was running short of water. Intelligence officers were thus able to confirm their suspicion that the Japanese intended to invade Midway. The "AF" incident is a rare example of intelligence analysts using a "Tripwire" in a control experiment to confirm their estimates.

On 25 May 1942 OP-20-G intercepted a message giving 4 June as the date for the attack on "AF." On 28 May, the Japanese changed their cipher (JN25c) ending for a time OP-20G's ability to gain insights into Japanese intentions. Admiral Nimitz and his staff spent the next several days nervously wondering if they would be proven correct. One officer noted in the command diary on 27 May "Of course it may turn out that the Japanese are pulling our leg and using radio deception on a grand scale."

Because of these miscalculations, Yamamoto unknowingly steamed toward an ambush laid by Admiral Chester Nimitz, who ordered Spruance to stand off to the northeast of Midway, beyond the range of Japanese search planes. An Army Air Force B-17 spotted the approaching Japanese fleet on the morning of 3 June. Early on the morning of 4 June, Nagumo launched half of his planes at Midway. Thirty-eight were shot down and a further thirty were so damaged that they had to be written off. Nevertheless, Nagumo ordered a second attack against the island. He had begun to rearm his remaining aircraft with high-explosive bombs effective against American facilities on the atoll when Japanese reconnaissance aircraft spied Spruance's approaching Task Force 16. However, they failed to detect the carriers Hornet, Enterprise and Yorktown. Nagumo halted the rearmament of his planes while he waited to ascertain the configuration of the American armada. He also needed to recover aircraft returning from his Midway raid. It proved a fatal hesitation because it left ordnance and fueled aircraft scattered around the hanger and flight decks of the Japanese aircraft carriers. At 0800 on 4 June, Spruance launched his entire strike force of sixty-eight dive-bombers, thirty torpedo planes and twenty fighters at an extreme range of 150 miles from Nagumo's fleet. Most of the American attackers, especially two entire squadrons of obsolete Devastator torpedo planes, fell victim to Japanese anti-aircraft fire and to the redoubtable Japanese Zero fighter planes.



*Dauntless Dive Bomber*



*Japanese Zero*

However, a handful of Dauntless dive-bombers from the Enterprise reduced the carriers Akagi, Kaga and Soryu to smoldering hulks. Japanese dive-bombers and torpedo planes from the surviving carrier Hiryu exacted a modicum of revenge in late morning by disabling the Yorktown. Barely a dozen of the Hiryu's planes had survived the attack on the Yorktown, too few to defend effectively against the wave of dive-bombers from the Enterprise that destroyed the Hiryu later that afternoon. Even though a Japanese submarine put an end to salvage efforts on the Yorktown, hitting her with several torpedoes, sinking

Yorktown proved scant compensation. The Americans could replace the Yorktown while Japanese naval power had been sustained a mortal wound because they could not replace the four aircraft carriers they lost in the battle.



*The American aircraft carrier Yorktown lists after being struck repeatedly by Japanese carrier aircraft during the Battle of Midway. Although it was in danger of capsizing and abandoned by its crew, a small volunteer salvage party aboard Yorktown had managed to stabilize the vessel. It was about to be taken under tow when a Japanese submarine sank it.*

Spruance retired his outgunned Task Force to the east to avoid the prospect of a night battle at which the Japanese navy excelled. Belatedly, Yamamoto attempted to unite the remnants of his dispersed force, and recall his two carriers from the Aleutians to even his odds against the Americans and to lash Midway with a punishing bombardment. By early morning of 5 June, aware that he was now without carriers, he reversed course, and steamed toward home. In the confusion caused by the appearance of the U.S. submarine Tambor, the cruisers Mikuma and Mogami collided. As the disabled Japanese ships limped eastward at 12 knots, planes from the Enterprise and Hornet sunk the Mikuma and so damaged the Mogami that it was out of the war for a year.

Yamamoto had been dealt a stunning defeat, sacrificing four carriers, a cruiser and the flower of Japan's naval air corps, most of whom had perished while sitting on the decks of his carriers waiting to rearm. The Japanese shifted to the defensive, abandoning plans to attack New Caledonia, Fiji, Samoa, and New Guinea. Instead, they allowed themselves to be drawn into an attritional battle in the Solomons, in the process losing ships that they could never replace. Spruance was confirmed the U.S. Navy's new wunderkind. The concept of the carrier battle group was validated. The U.S. Navy would henceforth take the offensive in the Pacific.

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