

CHAPTER 5

NAVAL HISTORY

Why should I bother to learn or read history? Isn't it dead and gone? Read on....The quotes from George Santayana and Alfred Thayer Mahan tell the story!

Those who cannot remember the past are condemned to repeat it.

—George Santayana, American Philosopher, 1863 - 1952

The study of history lies at the foundation of all sound military conclusions and practice.

— Alfred Thayer Mahan, Philosopher of Naval Strategy, 1840-1914

These two quotes tell you the reasons **why** you should know what happened in the past. By studying history, you can avoid the mistakes made in the past. By studying both the failures and successes of the past, you can plan for future success.

There is another reason to study history—history is an adventure story. History is full of daring deeds, good luck and bad, heroes, cowards, and spies. The history of a country or an organization is like the biography of a person. A biography is the story of a person's life. Naval history is the story of the life of the Navy. Since this chapter is the biography of the life of the United States Navy, the logical place to start is with the birth of the Navy.

THE BIRTHDAY OF THE UNITED STATES NAVY

Learning Objectives: When you finish this chapter, you will be able to—

- Identify the important events of naval history.
- Recognize the importance of naval actions and traditions

In school, you learned about the birthday of the United States. You were told about the events that happened on July 4, 1776. The United States Navy had its birth on October 13, 1775. How could this be? How could the Navy be older than the United States?

Just as there wasn't a United States of America on July 4, 1776, there wasn't a United States Navy on October 13, 1775. But, what led to the formation of the United States Navy happened on October 13, 1775.

Remember when the Second Continental Congress met on May 10, 1775, the colonists were already fighting the British. Before long, it was clear that if the Colonies were to survive, a Navy was necessary. Therefore, on October 13, 1775, the Second Continental

Congress authorized the purchase of two vessels; the United States Navy was born.

THE CONTINENTAL NAVY

Learning Objective: When you finish this chapter, you will be able to—

- Identify the ships of the Continental Navy to include the importance of their actions.

Navies are created from the spirit of independence and under the threat of war. They become mature by defending their country. This is the way it was with the first American Navy.

The American Colonies depended on the sea for their livelihood. All along the coast, harbors and shipbuilding docks offered work to many and provided income to thousands more. When the conflict between the Americans and the British began, these were the first ports the British attacked. These were also the ports from which the Continental Congress and the States sought to send out ships of a tiny and hastily organized naval force to harass the mightiest sea power in the world and its merchant fleet. This tiny naval force sought to capture enemy supply and munitions vessels.

What was life like in that first Navy? Where did its ships and men come from? How was it organized? And, importantly, what role did it play in building the proud tradition of the United States Navy today?

Like its beginnings, the Navy of the American Revolution was fragmented into many parts, each acting independently of the others. For instance, several naval engagements between the Americans and the British actually occurred before the Continental Congress authorized a Navy. Though the American Navy officially began in October 1775, some time passed before the new Navy had any effect on the mighty British Navy.

SHIPS OF THE CONTINENTAL NAVY

What constituted a *warship* in the late 1700s? During the revolutionary war and into the 19th century, naval vessels were grouped into three major classes—

1. Ships-of-the-line. These were the battleships of the sailing days. These ships were the largest of all sailing warships and carried 64 to over 100 guns of various sizes. However, our Navy's ships-of-the-line didn't come into existence until years later, long after the Revolutionary War was over.
2. Frigates. These were the cruisers of the 18th century. These cruisers were next in size, usually smaller and faster than average ship-of-the-line. They generally carried 28 to 44 guns.
3. Sloops-of-war. These were the small sailing warships. They carried 10 to 20 guns.

Another group of naval vessels were the privateers. Privateers were commissioned by the Continental Congress and by individual states to capture enemy merchant ships as prizes of war.

Typical of the independent "fleet" of privateers was the schooner. The schooner was a small, fast, flexible, flush-deck ship that carried smooth-bore cannon. With small ships like these schooners, the colonists broke the British stranglehold on main New England harbors by slipping past the Royal Navy's men-of-war and hiding in inlets. Unable to meet the British head-on, the American ships outmaneuvered them and jabbed here and there instead of standing full force and slugging it out.

Navy ships in the Continental Navy included the *Providence*, a 12-gun sloop; the *Lexington*, a 16-gun brig (converted from a merchantman); and the *Bonhomme Richard*, a loan from the French, an old East Indiaman. Later in this chapter, you will find out how other ships bearing some of these names made history in their own right.

THE FIRST UNITED STATES SUBMARINE

A young American experimented with a subsurface craft he hoped would help drive the British out of New York harbor and away from American shores for good. David Bushnell was a Yale medical student who had

been working on a small submarine for some 4 years and finally completed it in 1775.

This first warfare submarine, named the *Turtle*, was described by Bushnell as having "some resemblance to two upper tortoise shells of equal size, joined together..." It was 7.5 feet deep, and under ideal conditions had a maximum speed of 3 knots. A single operator could stay down for 30 minutes.

The *Turtle* was armed with an oak casing filled with 150 pounds of explosives. This charge could be attached to the bottom of an enemy ship where it was intended to remain until detonated by a simple clockwork mechanism.

After completing the submarine, Bushnell took it for several dives to prove its seaworthiness. Finally, in September 1776, he was ready to try it against the British in New York harbor. Sergeant Ezra Lee, a volunteer from the Connecticut militia, maneuvered the *Turtle* through the use of hand-driven screw propellers. His mission was to attach a time-fuse charge of gunpowder to the hull of HMS *Eagle*. However, the mission was aborted when the auger failed to penetrate the copper sheathing of the *Eagle*.

Bushnell made a few more attempts to use the *Turtle* against the British in the Delaware River. He attached mines to the *Turtle* and floated the mines against ships. These attempts failed. The submarine was finally sunk by the British in New York harbor—the first recorded instance of an antisubmarine attack.

CONTINENTAL NAVY ACTIONS

The new Navy ordered to be established by the Continental Congress came into being in the last months of 1775. To build a fleet, Congress authorized the construction of 13 new frigates (ranging from 24 to 32 guns) and the conversion of 6 merchant ships (ranging from 10 to 24 guns). These merchant ships included the USS *Hornet* and the USS *Alfred*. The USS *Alfred* had the distinction of being the U.S. Navy's first flagship and is said to be the first U.S. naval vessel on which the "Flag of Freedom" was hoisted (by John Paul Jones). All were solidly constructed ships with a number of guns. Even so, they were at a serious disadvantage because they were pitted against the established and superior British force—then the finest Navy in the world.

Student Notes:

NOTE

As you read along, check the maps at the back of the chapter.

The first commander in chief, Esek Hopkins, put the first squadron of the Continental Navy to sea in February 1776. Under the guns of the USS *Providence* and the USS *Wasp* and with the squadron headed by the USS *Alfred*, over 200 Sailors and Marines landed on New Providence Island in the Bahamas. John Paul Jones served as first lieutenant aboard the USS *Alfred*.

Hopkins' raid on New Providence Island was the first amphibious operation carried out by the American Navy and Marines. The squadron captured a number of cannons and supplies from the fort.

Because the British blockaded the American coast, it was difficult for the newly outfitted ships to reach the sea. The USS *Montgomery* and the USS *Congress*, ships of 28 and 24 guns, were built at Poughkeepsie, NY on the Hudson River. When the British occupied the port of New York, these ships were bottled up. To prevent their capture by the enemy, the U.S. government had to destroy them. Two more ships built in Philadelphia suffered a similar fate. Some of the others were also blockaded in their home ports, and one ship, the USS *Trumbull*, was bottled up for 3 years because it couldn't clear the sandbar in the Connecticut River.

The new frigates of the Continental Navy had their moments. The USS *Hancock* and the USS *Boston*, both built in Massachusetts, set out together in mid-1777. They captured two British brigs and were then involved in separate actions with the British warships *Somerset* and *Fox*. After escaping from the *Somerset* on May 30, 1777, they met the *Fox* a week later and successfully captured it. Later, the two Continental ships were pursued by the powerful HMS *Rainbow*. Following a 39-hour pursuit, the *Rainbow* bore down on the USS *Hancock* and captured it. The USS *Boston* escaped and continued to serve in various actions over a period of some 3 years. Its last action was in the defense of the Charleston, South Carolina, harbor where it was captured by the British in May 1780.

After its capture by the British, the *Hancock* went on to serve in the Revolution, but on the enemy's side. By a twist of fate, it was the *Hancock* (renamed the *Iris*) that

captured a sister frigate, the USS *Trumbull*, one of the original 13 frigates built for the Continental Navy. (The British crew was said to have called the American built ship one of the finest frigates in which it had sailed.)

Among the names associated with this new made-in-America fleet of frigates are John Barry, who courageously commanded many ships; John Manley, who captured the *Nancy* while in Washington's Navy; and Abraham Whipple.

The skipper of the USS *Providence*, Whipple, was a member of a three-ship force that found itself on the edge of a huge, heavily guarded, enemy convoy off Newfoundland during a fog. Sending armed boarding parties to the merchant ships, the Americans managed to take 11 ships as prizes without being detected by the ships protecting the convoy. Cargoes and captured ships worth a million dollars were dispatched back to the States.

John Paul Jones

Among the most daring commanders bringing the war to British waters was John Paul Jones (fig. 5-1). As skipper of the USS *Ranger*, he left France on April 10, 1778, for raids against the British. After capturing a number of ships, he actually landed on British soil, raiding Whitehaven, England.



Figure 5-1.—John Paul Jones, father of our highest naval traditions, represents the seaman, leader, officer, and gentleman at their best.

Student Notes:

The tiny new Navy played a significant role in the first official recognition by a foreign nation of the American “Stars and Stripes” flag. On February 14, 1778, John Paul Jones sailed into Quiberon Bay, France, in the USS *Ranger* and saluted the French fleet anchored there. A nine-gun salute was given in return. A gun salute given to a revolutionary government was a signal of that country’s recognition. France became one of the first foreign powers to recognize the struggling government of the American Colonies. (In 1776, the Dutch had given recognition to an American flag [not the Stars and Stripes] at St. Eustatius, an island in the West Indies belonging to Holland.)

In 1779, John Paul Jones took command of an old, decaying French merchant ship that he renamed the USS *Bonhomme Richard*, honoring Benjamin Franklin. It carried 42 relatively light guns (some in doubtful condition). Jones headed for the coast of Ireland, capturing some ships and destroying others. On September 23, 1779, Jones met the British warship *Serapis* (with 50 guns), and a furious battle ensued near the headland of Flamborough Head. As Jones wrote later:

Every method was practiced on both sides to gain an advantage, and rake each other; and I must confess that the enemy’s ship, being more manageable than the Bonhomme Richard, gained thereby several times an advantageous situation, in spite of my best endeavors to prevent it.

The two ships, lashed together with grappling hooks so neither could escape, pounded away at one another. The USS *Bonhomme Richard* began taking the worst of the beating. The ship began to fill with water and fire broke out in several places. According to one story, a gunner in a state of panic was about to strike the colors when Jones hurled his pistol at him, striking him down. The battle continued and the fighting was furious. The outcome was uncertain until the end. The highlight of the battle came when, after being asked if he had struck colors, Jones replied, *Struck, sir? I have not yet begun to fight!* These words inspire Sailors to this day.

What turned the tide of victory for Jones? It was his forces aloft. Armed with muskets and climbing along the interlaced rigging of the two ships, Jones’s men kept the deck of the *Serapis* clear by shooting and dropping chains and other material down on the enemy. A member of Jones’ crew climbed to the *Serapis*’ maintop and managed to drop a hand

grenade on to the gundeck, which ignited the gunpowder and scattered cartridges. In that man-to-man sea battle, the British were finally forced to surrender. The battle of the USS *Bonhomme Richard* versus the *Serapis* went down as one of the great naval battles in history.

By the time the war was over, the official Continental Navy operated some 56 vessels at one time or another. However, it only managed to reach a peak of 27 ships, averaging 20 guns, that operated at the same time. This tiny Continental Navy, hurriedly assembled when the Colonies declared their independence, served not only to inflict damage on the proud ships of the Royal Navy but also to lift American morale with each of its victories. John Paul Jones, Gustavus Conyngham, and Lambert Wickes were among those who brought the battle to the British on their own waters. The news of daring raids and victorious battles at sea was acclaimed in the 13 youthful Colonies of the United States.

Privateers

American privateers harassed British shipping over lengthy sea-lanes. At first, ships of all types were converted for harassment purposes. Later, ships were specially built to do this job. These ships were fast and reasonably well armed. Men from all walks of life signed up to serve on these ships. Private financing to arm and fit the vessels was needed, but that was rarely a problem because a share in a privateer could mean a fortune almost overnight.

The British Navy began a system of convoys to protect its merchant shipping, but it was far from foolproof. The moment a merchantman dropped behind, it was in immediate danger because a warship couldn’t leave the convoy to protect just one ship. Then, too, convoys could protect only so many ships.

It’s estimated that Congress issued more than 1,600 commissions for privateers during the Revolutionary War. The privateers operated not only along the American coastlines, but also far out into the Atlantic and even into the English Channel and the Irish Sea.

According to one reasonable estimate, the British were said to have lost some 2,000 merchant ships, manned by crews totaling 16,000, to the American privateers. The merchant ships captured as prizes were manned by prize crews from the privateers and sailed to a friendly port where the ships and cargo were sold.

REVIEW 1 QUESTIONS

- Q1. What was the reason for the formation of the United States Navy?
- Q2. During the late 18th century, battleships were classified as—
- Q3. During 1775, a craft was completed to fight the British Navy. What type of craft was this, what was it named, and who was its inventor?
- Q4. What is the significance of the 1776 raid on the island of New Providence in the Bahamas?
- Q5. The first official recognition of the American Stars and Stripes flag by a foreign nation was given by (a) what nation in (b) what location?
- a.
- b.

THE U.S. NAVY FROM 1783 TO THE CIVIL WAR

Learning Objectives: When you finish this chapter, you will be able to—

- Recognize the roles and responsibilities of the Navy from 1783 to the Civil War to include the War of 1812.

At the end of the Revolutionary War, a new federal government was established. In 1783, the Navy was down to five ships. The Navy was disbanded, and the last frigate, the USS *Alliance*, was sold in 1785.

Soon, Congress saw the need for a Navy. America's small merchant fleet was being molested on the high seas. In 1794, a Navy-conscious Congress authorized the construction of six frigates. They were to be of a new design—long and strong. These ships had a combination of firepower and class. One of these was the USS *Constitution* (fig. 5-2), which was completed in 1798. This ship was equipped with 44 guns, could sail at 13 1/2 knots, was 175 feet long (at its gundeck), and had a tonnage rating of 1,576 tons. Its mainmast towered 105 1/2 feet above its decks.



Figure 5-2.—The new and radical USS *Constitution*, built for speed and firepower, helped to rid the Mediterranean of the Barbary pirates.

NOTE

The USS *Constitution* is still in commission and can be seen at the Boston Navy Yard.

The USS *Constitution* fulfilled the thoughts and dreams of President John Adams, who did so much to form the U.S. Navy. John Adams established the Navy Department in 1798.

THE EARLY YEARS

Between America's first two wars with Great Britain (the Revolutionary War and the War of 1812), the early U.S. Navy was involved in two other conflicts—the Quasi War and the Barbary States War.

Student Notes:

Quasi War

The “Quasi War” with France, 1798 - 1801, was entirely a naval war. It followed worsening diplomatic relations with France, including a refusal by the French Secretary of Foreign Affairs to receive U.S. representatives unless a bribe was paid and a loan granted. The famous expression “Millions for defense, but not one cent for tribute” originated at this time. The Quasi War was the baptism of fire for the United States Navy under the new Constitution.

Barbary States War

The U.S. Navy was sent to the Mediterranean to deal with the Barbary States, who were forcing other nations to pay ransom for safe passage through the Mediterranean Sea. During the campaign, Lieutenant Stephen Decatur and 84 seamen slipped into the harbor at Tripoli on February 16, 1804, and burned the captured frigate USS *Philadelphia* (fig. 5-3). Not a single American Sailor was lost. Britain’s Admiral Lord Nelson described the raid as “one of the most bold and daring acts of the age.”



Figure 5-3.—Lieutenant Stephen Decatur and 84 seamen slipped into Tripoli harbor and burned the captured American frigate USS *Philadelphia*.

THE WAR OF 1812

The War of 1812 was brought on, in part, because the British were impressing (forcing Americans to serve in the British Navy) American seamen. England impressed American seamen to make its presence felt and demonstrate its power on the American continent.

On August 19, 1812, Captain Isaac Hull aboard the USS *Constitution* defeated the British frigate *Guerriere* (fig. 5-4), and the USS *Constitution* earned its nickname “Old Ironsides.” The victory convinced Congress and President Madison that a stronger Navy was needed to win the war and protect the country.



Figure 5-4.—During the War of 1812, Captain Isaac Hull, aboard the USS *Constitution*, defeated the British frigate *Guerriere*.

Almost a year after Hull’s important victory, another famous event in our naval history occurred. On September 10, 1813, Captain Oliver Hazard Perry defeated a British squadron on Lake Erie and wrote his dispatch, “We have met the enemy and they are ours.” Perry’s win cut British supply lines on the Great Lakes, gained control of Lake Erie, and strengthened the American claim to the Northwest Territory.

The Barbary States War and the War of 1812 saw bigger ships coming into the Navy. Typical was our first ship-of-the-line, the USS *Independence*, followed by the 74-gun USS *North Carolina*.

THE YEARS FROM 1813 TO 1815

Following the War of 1812, our Navy underwent technological changes. Before the Civil War, new scientific advances foreshadowed the incredible technological revolution that continues into today’s world.

One change was the use of steam. The Navy entered a new era, an era of the “steam-driven warship.” Harnessing the power of steam was the most important development in the surface Navy during the first half of the 19th century. Steam began to replace wind as a means of propulsion. It promised to eliminate some of the hazards and delays caused by ships being blown off course or left dead in the water.

Student Notes:

The principles of steam power were known for centuries. But, it was Robert Fulton who successfully used steam to power a commercial steamboat. After making a number of important modifications to James Watt's basic steam engine, Fulton sailed his riverboat *Clermont* up the Hudson River in 1807. Fulton helped build USS *Demologos*, the Navy's first warship to use steam. It was originally intended to defend the port of New York during the War of 1812. The USS *Demologos* was rechristened the USS *Fulton* in Robert Fulton's honor.

1815 TO THE CIVIL WAR

From 1815 to 1840, the Navy continued to expand its sailing fleet. In fact, more than 74 ships-of-the-line were built. In 1837 the Navy launched the 3,104-ton USS *Pennsylvania*, the largest of America's ships-of-the-line.

In 1841, the Navy launched the USS *Missouri* and the USS *Mississippi*. These were our first ocean-going, steam-driven capital ships. At the same time the US Navy was building bigger ships, it was developing steam powered ships and iron clad ships.

At the same time it was harnessing steam power for ship propulsion, the Navy was making advances in ship construction. The Navy began making its ships with iron instead of wooden hulls. In 1843, the Navy launched its first iron-hulled warship—the paddle sloop USS *Michigan*. This side-wheeler was 163 feet long and displaced 685 tons. It was powered by a 170-horsepower, two-cylinder, steam engine. Without using its sails, the USS *Michigan* was capable of making 8 knots.

Through the efforts of farseeing men like Commander Matthew Calbraith Perry, USN, the Navy was becoming more steam conscious. Perry is referred to as the "Father of the Steam Navy." He was enthusiastic about the possibilities of steam, and was in charge of construction and in command of the Navy's second steam frigate the USS *Fulton*. The harnessing of steam power was considered the most important naval development since the cannon.

The newly built steamships posed problems if engaged in battle. Their paddle wheels and steam engines could be easily damaged by enemy fire. This problem was fixed by changing the design of the ships so that the paddle-wheel housing was enclosed behind 5-foot-thick walls and set in an inboard channelway.

Steamship development overcame problems one by one. For example—

- Stronger engines were developed;
- Screw propellers replaced the paddle wheel; and
- Coal as a fuel was recognized as more efficient than wood.

These changes didn't happen overnight; they required long periods of trial and error. But in the 1840s, new ideas were being explored by their proponents. On September 5, 1843, the Navy's first successful steamship, the USS *Princeton*, was launched. Its new type of propeller eliminated the vulnerable paddle wheels and permitted the ship's engines to be placed below decks in protected spaces.

Other actions between 1815 and the Civil War included the following:

- The Navy took the first steps in Antarctic exploration. Notably, Lieutenant Charles Wilkes visited the subpolar region in January 1840 and proved conclusively that the icy land was, in fact, a continent.

- Following Texas' admission to the U.S. as the 28th state, Mexican troops crossed the Rio Grande. War broke out. The Mexican-American War was primarily a land war. However, the Navy did get involved. It blockaded port cities in the Gulf and provided protective action by the "Mosquito Fleet" during the first large-scale amphibious operation in U.S. military history—the landing of some 10,000 U.S. troops at Vera Cruz. (The Navy itself was not equipped to carry out such an operation at that time.) Marines were also involved in this war—they marched with Scott to Mexico City, coining the phrase "...from the halls of Montezuma..." in the famed Marines' song.

- The Navy was involved in diplomatic relations. Commodore Matthew C. Perry signed a treaty with Japan on March 31, 1854. This was the treaty that opened Japan's ports to American trade and provisioning of ships. England and Russia soon followed with their own treaties, all modeled after Perry's.

Student Notes:

REVIEW 2 QUESTIONS

- Q1. After the Revolutionary War, what was the next significant role of the U.S. Navy?
- Q2. List the two conflicts that the American Navy was involved in between the Revolutionary War and the War of 1812.
- a.
 - b.
- Q3. Describe the event during the Barbary States War that Lord Nelson thought of as *one of the most bold and daring acts of the age*.
- Q4. List two events that the U.S. Navy was involved in during the War of 1812
- a.
 - b.
- Q5. The Mexican-American War was primarily a land war. However, the Navy provided what service during this war?

THE U.S. NAVY FROM THE CIVIL WAR TO THE 20TH CENTURY

Learning Objective: When you finish this chapter, you will be able to—

- Recognize the roles and responsibilities of the Navy from the Civil War to the 20th century to include the Civil War and the Spanish-American War.

The last half of the 19th century was a time of change for the United States. Marked by two wars and the first assassination of a United States President, it was a time of rapid change for the country and its Navy.

THE CIVIL WAR

This bloody struggle between the States was the stage for many events in U.S. naval history. Both Union and Confederate navies engaged in shipbuilding programs. These programs brought the ironclad era into being. Launched by the Union in 1862, USS *New Ironsides*, a powerful ironclad, had the armor that allowed it to survive 50 hits in one battle.

Ironclads

The Civil War saw the development of two famed ironclads—the USS *Merrimack* (renamed the CSS *Virginia* by the Confederacy) and the Union's USS *Monitor* (which sported a turret). The USS *Monitor* was ungainly, called a *cheese box on a raft*; however, it and its Confederate counterpart began the ironclad era. The battle of the ships was indecisive; both sides claimed victory.

Also appearing on the scene were riverboats, rams, and gunboats. Probably more changes and advances were made in ship designs during the 4 years of the Civil War (1861 - 1865) than during any period since our Navy had its start in 1775.

Submarines

The Confederate Navy took the next steps forward in the development of the submarine. The USS *Hunley* was built with funds provided by Captain H. L. Hunley, a man blessed with imagination but lacking in practicality. The ends of this 25-foot craft were loaded with ballast tanks that could be filled for descent but had to be hand pumped for ascent. Power was supplied by a propeller fitted to a camshaft that ran the length of the ship and was turned by as many as eight men.

The CSS *Hunley* was a jinx to the Confederate Navy. On its first voyage, it nosed into the mud and refused to surface, killing its seven crew members. It was hauled up and moored at James Island, where a passing steamer swamped it and six more crewmen were lost. It was hauled up once more and manned with another crew, but was swept over by another steamer and another three men were killed.

Student Notes:

A young Confederate lieutenant, George Dixon, was convinced that the boat could be useful to the South. The CSS *Hunley* was moored off Charleston's Sullivan Island, just a few hundred yards from the USS *Housatonic*. In the first true submarine attack in naval history, Dixon cast off toward the large warship. The CSS *Hunley* attacked the USS *Housatonic* in calm waters in the dark of night. The submarine was sighted by lookouts on the USS *Housatonic*; however, it didn't have the time or the opportunity to strike back or set sail.

The CSS *Hunley* hit the USS *Housatonic* driving its shaft deep into the ship's hull. The heavy charge of gunpowder the submergible was carrying went off prematurely, and the CSS *Hunley* never had a chance to escape. It and all of its crew went down. The USS *Housatonic* had the same fate. It was hit on the starboard side and went down in just 4 minutes. Another northern vessel moved to its rescue, and only a few of its seamen were lost. Even though he lost his life, Lieutenant Dixon had demonstrated that submarines could be useful weapons of war.

Other Innovations

Some people associated with the Navy during the 19th century were interested in the air above the ocean. The USS *George Washington Parke Custis* of the Civil War days might be labeled as the Navy's first "aircraft carrier." Actually, it was a balloon boat used to launch observation balloons over enemy installations. It was 122 feet long, and its total cost was \$150.

Other Civil War Actions

Capture of Vicksburg. On the Mississippi River, the capture of Vicksburg, Mississippi, by the combined naval forces of Rear Admiral David G. Farragut, Acting Rear Admiral David D. Porter, and the commander of the Army in the West, General Ulysses S. Grant gave the North control of the entire river. The capture of Vicksburg cut off important Confederate supplies of food and clothing coming from Louisiana, Texas, and Arkansas.

Battle of Mobile Bay. On August 5, 1864, David Farragut, the Navy's first admiral, gave his famous order "Damn the torpedoes! Full speed ahead!" (Torpedo was the name used at the time for mines.) Farragut's order won the Battle of Mobile Bay (fig. 5-5). This victory closed the South's most important port (since New Orleans had already fallen) and tightened the Union blockade.

Student Notes:



Figure 5-5.—Farragut (in rigging) at Mobile Bay.

The Civil War produced many men whose names are still famous in the Navy:

- Andrew Foote, whose gunboats helped General Grant capture the Mississippi River fortresses
- John Dahlgren, the father of modern naval ordnance (fig. 5-6)

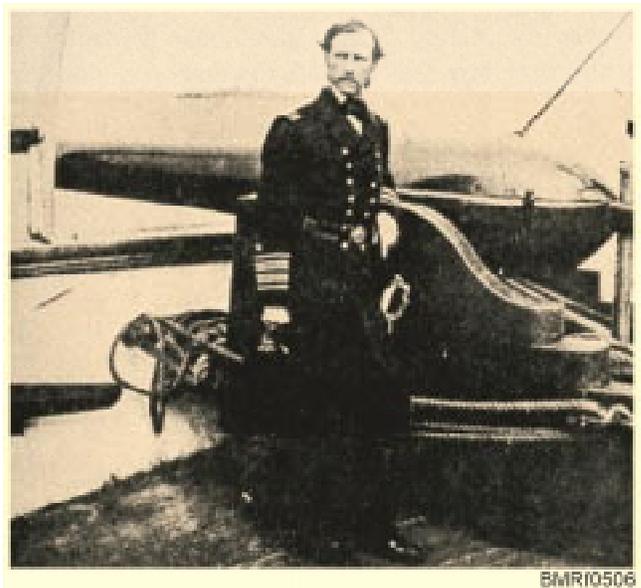


Figure 5-6.—Rear Admiral Dahlgren, standing next to one of the guns he designed, was a leading pioneer in modern naval ordnance and gunnery.

- David D. Porter (son of the captain of the *Essex*), who commanded the mortar flotilla in the capture of New Orleans

POST CIVIL WAR NAVY

Alfred T. Mahan (fig. 5-7) was one of the first instructors at the Naval War College, and he influenced naval strategy. In 1890, the first of his many books and articles on sea power was published. One of his books (*The Influence of Sea Power Upon History, 1660 - 1783*) stressed that without control of the seas, a nation at war could not expect victory. He defined sea power; showed the importance of understanding naval needs; and advocated a large, powerful Navy capable of assembling an overwhelming force to defeat the enemy's Navy. His books on sea power became the "bible" of many navies, and for many years, they influenced the thinking of naval strategists. Part of our Navy's readiness for the war with Spain was a result of the influence of his works.



Figure 5-7.—A philosopher of naval strategy, Mahan researched military history and proved that the nation controlling the oceans is the nation that maintains its supremacy in war or peace.

Surface Ships

Steam power was the major development in ship propulsion during the first half of the 19th century. Iron construction of ships was the outstanding development of the second half. The two developments went hand in hand—all the navies of the world recognized the advantages of steam power, and iron warships needed large steam engines to power them. The engines, in turn, called for bigger ships to accommodate them.

Shipbuilders used iron first as framing and then as a material for the entire ship. Iron was first used as

framing to reinforce ships so that they could be used to ram their opponents as well as fire on them. It was several years before an economical way to process iron strong enough for the entire construction could be found. (Wooden ships had the advantage of being cheaper to build than iron ships.)

After the Civil War, the Navy began a drawdown period. A year and a half after the war, the total number of Navy ships was 236, with only 56 in active service.

World conditions made our Country aware that the Navy was small. Therefore, in 1882 and 1883, Congress authorized the construction of the "protected cruisers" USS *Atlanta*, USS *Boston*, and USS *Chicago* and the dispatch boat USS *Dolphin*, which had both masts for sails and stacks for smoke. They were steel hulled and signaled the end of the ironclads introduced only 40 years earlier. These new cruisers were in the 13- to 14-knot class. They sported new guns, new types of turrets, and armor.

Once more, the Navy began to rebuild its strength. Continued changes were made as the new steel Navy took on new shapes. Still clinging to the past, the USS *Newark*, a 4,098-ton protected cruiser, was the last of the Navy's warships to be fitted with sails. It was launched in 1890 and commissioned the following year. Because of its many improvements, the USS *Newark* has been labeled as *the first modern cruiser in the U.S. Fleet*.

With the development of the self-propelled torpedo, long-range torpedo boats made their debut. In 1890, one of the first torpedo boats joined the fleet—the 22.5-knot USS *Cushing*. The Navy acquired 16 fast torpedo boats and three 185-ton boats capable of speeds of 27 knots.

The development of torpedo boats caused the shape of ships to change. An example was the USS *Truxtun*, which led to the design of our present-day destroyers. These ships were designed to combat torpedo boats. Later improvements resulted in destroyers themselves carrying torpedoes.

Subsurface Ships

Since surface ships were driven by steam, why not submarines? Steam requires air, fire, and heat, and those were in limited supply aboard a submarine. During the 19th century, the internal combustion engine was developed. Use of this engine on ships had drawbacks.

Student Notes:

However, many of its problems were overcome by two inventors—John Holland and Simon Lake. Holland and Lake had opposite theories about the submarine.

- Holland thought submersion should be made by power-diving, using the force of the propeller and the angle of the bow planes.
- Lake said boats should descend on an even keel with slight negative buoyancy.

Lake was more interested in underwater exploration than naval warfare. He thought a submarine could be equipped with wheels and driven along the ocean's floor, although he did not pursue that idea. Holland was more practical; his design included a workable torpedo tube, which Lake's did not.

Holland received a \$150,000 contract from the Navy for a subsurface vessel. His first attempt failed, but the Navy was impressed enough to award him another contract. By 1898, he had built USS *Holland*, a cigar-shaped craft, 52 feet long and 10 feet in diameter. The USS *Holland* was equipped with a gasoline engine for surface power and generators that charged batteries for underwater power. It was armed with a torpedo tube that fired an 18-inch torpedo and a bow gun recessed into the hull. A New York newspaper commented that "...the offensive powers of the *Holland* are, considering the size and method of attack, far greater than any other engine of war."

The submarine's problem of running blind when submerged was corrected after Simon Lake experimented with a set of prisms and lenses. Before that,

the USS *Holland* had to surface to permit the crew to look out the conning tower; causing it to lose its greatest advantage—surprise. Lake and a professor from Johns Hopkins University worked out a design for the periscope. The periscope, with various improvements, remained the submarine's basic visual aid until 1958.

THE SPANISH-AMERICAN WAR

At the end of the 19th century, the United States and Spain became involved in diplomatic disputes about Cuban independence, trade, and U.S. citizens living there. On the evening of February 15, 1898, a terrific explosion suddenly tore through the battleship USS *Maine* at anchor in Cuba's Havana harbor. The explosion killed 250 American Sailors. The explosion was a major reason for the start of the Spanish-American War...*Remember the Maine* became our battle cry.

One event stood out in this short war—Commodore George Dewey's seizure of Manila Bay in the Philippines. On May 1, 1898, he steamed into Manila Bay and ordered, "You may fire when you are ready, Gridley." Dewey's resounding victory destroyed Spain's naval power in the East and was instrumental in quickly ending the war.

Shortly after the Battle of Manila Bay (fig. 5-8), U.S. naval forces at Cuba cornered the Spanish Atlantic Squadron at Santiago Bay. On the morning of July 3, 1898, the Spanish squadron tried to break out of the bay and was completely destroyed. Cuba and Puerto Rico fell shortly afterwards, effectively ending the war.



Figure 5-8.—Battle of Manila Bay.

Student Notes:

REVIEW 3 QUESTIONS

- Q1. List the naval developments during the last part of the 19th century.
- a.
 - b.
 - c.
 - d.
 - e.
 - f.
- Q2. After the development of the ironclad, what was the Confederate Navy's next achievement?
- Q3. During the Civil War, the U.S. Navy's first admiral gave the famous order, "Damn the torpedoes! Full speed ahead." List the admiral's name and battle where he gave the order.
- Q4. Describe how Alfred T. Mahan influenced naval strategy.
- Q5. What was the major cause of the Spanish-American War?
- Q6. Who was instrumental in quickly ending the Spanish-American War?

THE NAVY FROM 1900 THROUGH WORLD WAR I

Learning Objective: When you finish this chapter, you will be able to—

- Recognize the roles and responsibilities of the Navy during World War I.

The 20th century began with a world at uneasy peace. Between the end of the 19th century and WWI, the U.S. Navy developed some new weapons. For example, in April 1900 the Navy accepted its first operational submarine, USS *Holland*.

SUBMARINES

The Navy continued to experiment with the development of submarines throughout the next decade. One of the main problems continued to be the gasoline engine—it heated up and gave off fumes that overcame many of the crew.

The gasoline engine was replaced by the diesel engine. The first diesel engines were installed in the USS *Skipjack* (SS 24) and the USS *Sturgeon* (SS 25). These new engines required no complicated ignition or sparking systems, produced fewer fumes, and were cheaper to operate. The diesel engine and electric battery remained as the main propulsion systems for submarines until nuclear power emerged in the 1950s.

DESTROYERS

Destroyers had been used primarily to deliver torpedo attacks. With the development of the submarine, they became submarine hunters. Construction of our first destroyer, which displaced 420 tons, began in 1899. Destroyers proved so successful that building these ships began on a large scale. From 1892 to 1914, the start of World War I, over 50 destroyers were built; and 273 were ordered during the war.

CRUISERS AND BATTLESHIPS

The battleship resulted from the major changes in ship design that took place during the 19th century. Battleships carried heavy guns and corresponding armor protection. The United States had begun building its *battlewagons* in the late 1880s; each succeeding class had more firepower than the one before.

Student Notes:

By 1895, the heavy elements of the U.S. Fleet consisted of 15 steel cruisers, the heavy cruiser USS *New York*, and three battleships. The first two battleships were the USS *Texas*, commissioned on August 15, 1895, and the USS *Maine*, commissioned on September 17, 1895. Both were listed as “second-class” battleships. The third ship, the USS *Indiana* (BB 1), was commissioned in 1895. It was our first “first-class” battleship.

In 1906, the United States began a large battleship-building program. Five battleships were of the same class as the USS *New Mexico* and USS *Colorado*; however, they weren’t completed until after World War I. Based on lessons learned from wartime experiences, many improvements were incorporated into their design. For example, battleships of the same class as the USS *Colorado* were the first ones equipped with 16-inch guns.

NAVAL AVIATION

As the 19th century drew to a close, the Wright brothers were working on their flying craft. The Wright brothers’ first flights at Kitty Hawk, North Carolina, began the vision of the future. Most people thought of flying as a stunt or a sport, while others talked about crossing the ocean by airplane. One European wrote in part,

...flights over the ocean will be made possible by a new type of ship...[its] deck will be clear of all obstacles, flat and wide as possible ... [it will] have the aspect of a landing field...its speed shall equal that of a cruiser...housing of planes will be arranged below deck and planes will have folding wings...and to one side there will be the service personnel workshop.

Others saw the potential of aircraft serving as an extension of the might and range of a naval force at sea. They were convinced that airplanes wouldn’t be used just for circus sideshows and crop-dusting. They believed aircraft would transport troops across oceans and be equipped to strike offensively.

The Navy was again looking upward. As the Assistant Secretary of the Navy, Theodore Roosevelt recommended that the Secretary of the Navy appoint two officers “...of scientific attainments and practical ability...” to examine Professor Samuel P. Langley’s flying machine and report on its potential for military use.

One such man was Navy Captain Washington Irving Chambers, the U.S. Navy’s first officer in charge of aviation. Captain Chambers’ initial involvement was to answer letters from air-minded citizens and observe and report on aviation developments of particular concern to the Navy. What started as a collateral duty soon was a full-time job, and Chambers became a strong supporter of those who wanted to see the sea service add an air arm.

In April 1911, the Office of Aviation in Washington, D.C., consisted of only Captain Chambers. In May, he wrote requisitions for two machines made of wood, canvas, bamboo, rubber, and metal—two airplanes, the A-1 and the A-2. Earlier in the year, a civilian, Eugene Ely, had successfully taken off from and later landed a biplane on a platform rigged aboard USS *Pennsylvania* (ACR 4), demonstrating the practical use of naval aircraft.

Shortly thereafter, the Navy accepted delivery of its first airplane, the A-1. The A-1 was first flown by Lieutenant T. G. Ellyson, the Navy’s first aviator. The A-1 was followed by the A-2; naval aviation had gotten off the ground.

By October 1911, the Navy was ready to try durability flights. Lieutenants Ellyson and J. H. Towers attempted a flight from Annapolis to Fort Monroe, Virginia. After flying 112 miles in 122 minutes, the pair was forced down somewhat short of their goal by mechanical problems. Although a failure in part, the flight paved the way for successful durability tests in the following months.

Based on tremendous headway made in a few short years, in 1914, Secretary of the Navy Josephus Daniels prophesied “...the science of aerial navigation has reached that point where aircraft must form a large part of our naval force for offensive and defensive operations.” It had become evident that the airplane was no longer merely a plaything of the rich or eccentric—it had become a vital part of our nation’s weaponry.

OTHER DEVELOPMENTS FROM 1900 THROUGH WWI

Meanwhile, the Navy was switching from coal to oil as fuel for its ships. USS *Nevada* (BB 36) was the first of the battleships to use oil. The day of the coal passer was on the way out.

Student Notes:

Navy involvement in exploration continued during the first decade of the century. On April 6, 1909, Commander Robert E. Peary, accompanied by Matthew Henson, reached the North Pole.

In pre-World War I days, the Navy also carried out its role as a diplomatic arm of the government. On December 16, 1907, the Great White Fleet left Hampton Roads, Virginia, for a round-the-world cruise to show the flag. The exercise demonstrated the strength of the U.S. Navy.

Although the United States entered World War I late, the Navy had plenty of time to make history. On May 4, 1917, six American destroyers commanded by Commander Joseph K. Taussig steamed into Queenstown, Ireland. They became the first U.S. Navy ships to operate in European waters during World War I. The event, billed as the “return of the *Mayflower*,” was a great morale booster and aid for the Allied forces. The incident is probably best remembered by Commander Taussig’s simple remark upon reporting to the British admiral in charge: “I shall be ready when refueled, sir.”

Destroyers became a primary symbol of British-American cooperation during WWI. Destroyers were the main defense against German U-boats, which were practicing unrestricted warfare and terrorizing the seas. U-boat attacks were one reason for our entry into the war.

The British and Americans exchanged signals, codes, and inventions in combining their destroyer forces to seek out and attack the German submarines. Destroyers served as escorts for troopships and supply convoys for the Allies, helping to ensure their safety. On November 17, 1917, the destroyers USS *Nicholson* and USS *Fanning* were the first U.S. ships to sink an enemy submarine.

When the United States entered World War I, naval aviation assets were limited. The nation had only 54 aircraft, 1 air station, and 287 personnel assigned to aviation. The nation had no armed forces or operations abroad.

In spite of its size, the air arm proved its value as a supporting unit to surface antisubmarine (ASW) forces. Navy pilots served with Allied units in France and England. The airplane created a new breed of hero, the ace. Nineteen year-old Lieutenant David Ingalls, later Assistant Secretary of the Navy (Air), flew a Sopwith Camel to become the Navy’s first ace.

In World War I, the women’s role in the Navy came into its own. In 1811, a Navy surgeon recommended employing women in hospitals to care for the Navy’s sick and wounded. The idea was not acted upon at that time.

NOTE

In the Civil War, women nurses, although not part of the Navy, served aboard the hospital ship USS *Red Rover* in the medical department. In the war of 1898, the first trained nurses in the Navy, though not an official unit, were stationed at the Norfolk Naval Hospital to care for the injured. A decade later (in 1908), the Nurse Corps was officially born.

As the nation readied itself for World War I, it needed Yeomen and personnel in related jobs to handle the growing demand from headquarters and naval shore stations. Josephus Daniels, Secretary of the Navy, asked his legal advisors, “Is there any law that says a Yeoman must be a man?” The answer was no, but until that time only men had been enlisted. “Then enroll women in the Naval Reserve as Yeomen,” the Secretary said. In such jobs, he added, they would offer the best “assistance that the country can provide.”

Immediately after the United States entered World War I, women were enlisted on a large scale “in order to release enlisted men for active service at sea.” By the time the armistice was signed, 11,275 women were enlisted in service as Yeomen (F). They handled most of the clerical work at the Navy Department, in addition to many highly important special duties. Yeomen (F) were stationed in Guam, the Panama Canal Zone, and Hawaii, in addition to the United States and France. About 300 “Marinettes,” as the female enlisted personnel of the Marine Corps were designated, were on duty during the war. Most of them were stationed at Marine Corps Headquarters at the Navy Department, although a number were assigned with Marine Corps recruiting units.

All Yeomen (F) were released from active duty by July 31, 1919. Secretary Daniels sent the following message to the Yeomen (F): “It is with deep gratitude for the splendid service rendered by the Yeomen (F) during our national emergency that I convey to them the sincere appreciation of the Navy Department for their patriotic cooperation.”

Student Notes:

REVIEW 4 QUESTIONS

All questions in this review concern WWI.

- Q1. Before WW I, the Navy built surface ships and submarines. What other development occurred then that is still a big part of today's naval arsenal?
- Q2. What was one reason why the U.S. Navy was deployed?
- Q3. Describe the role of Navy destroyers.
- Q4. Describe the role of the air forces.
- Q5. What was the role of Navy women?

THE NAVY FROM 1920 TO 1950

Learning Objective: When you finish this chapter, you will be able to—

- Recognize the roles and responsibilities of the Navy from 1920 through 1950 to include World War II and the post-war years.

The world was changing rapidly from the end of WWI to 1950. During the 1920s, the world economy boomed, then fell. In the 1930s, there was the “Great Depression.” In 1939, World War II began. In this section, you will learn about some of the developments made by the U.S. Navy.

Student Notes:

1920 TO 1940

Between 1920 and 1940, the U.S. Navy was developing its aviation arm to include aircraft carriers and airships and airplanes. Also, it was building up its destroyer strength.

Aviation

Great strides in aviation had been made during World War I, and the end of the war did not slow the pace of progress. On May 8, 1919, three Navy Curtiss (NC) flying boats taxied into the bay of Far Rockaway, New York, and took off for Europe. Plagued by mechanical difficulties, two NCs failed to make it. The NC-4, piloted by Lieutenant Commander Albert C. Read, became the first airplane to fly the Atlantic. LCDR Read's message from Lisbon, Portugal, to the President read, “We are safely across the pond. The job is finished.” The NC-4 is now located at the National Museum of Naval Aviation, Pensacola, Florida.

With transoceanic aircraft a reality, the Navy continued to research the use of rigid airships in its air arm. In 1923, *Shenandoah* was launched. During a severe squall in 1925, the *Shenandoah* broke in half and killed 14 men. At that time, some authorities questioned the safety of the airship since it was fueled with highly flammable hydrogen. In spite of some opposition, the Navy continued to test rigid airships throughout the next decade. In 1931, USS *Akron* was launched. The *Akron* crashed in 1933 during a thunderstorm, killing the entire crew.

In November 1929 a Ford trimotor aircraft, named the *Floyd Bennett*, carried Commander Richard E. Byrd and his crew on the first flight over the South Pole. Commander Byrd thereby became the first man to fly over both poles.

In 1933, *Macon* was commissioned. Two years later the *Macon* also crashed into the sea. The Navy then abandoned research and construction of rigid airships.

Aircraft Carriers

In 1934, the USS *Ranger*, the first carrier designed from the keel up, joined the fleet. Also in the 1930s and prewar 1940s, the large aircraft carriers USS *Enterprise*, USS *Wasp*, USS *Hornet*, and USS *Yorktown* were commissioned.

Those carriers played an important role in the prewar years. They were used in exercises to test the possibility of launching air attacks from their decks. During fleet maneuvers, naval aviators received excellent training in mock attacks on Pearl Harbor. Flying predawn missions from carriers, flyers theoretically destroyed the U.S. Fleet and its aircraft there. Fleet commanders were impressed by the flexibility of the air arm, but no one else seemed to pay much attention to the exercises.

Destroyers

Between the two world wars, the United States built the Navy's destroyer fleet to 184 ships. Destroyers also became prime factors in America's policy to turn over older destroyers (fig. 5-9) to Britain after the British entered the war against Germany. When the Japanese attacked Pearl Harbor, a destroyer, USS *Ward* (DD 139), was among the first American forces to fire against the enemy, sinking a Japanese midget submarine. Destroyers went on to distinguish themselves in fighting enemy submarines both in the Atlantic and Pacific theaters.

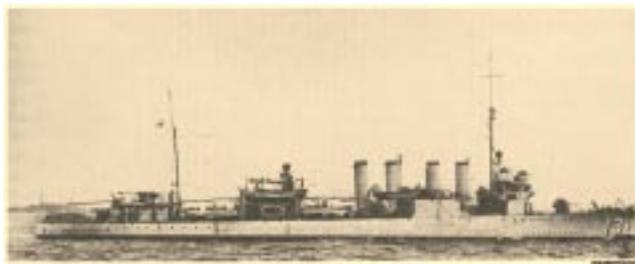


Figure 5-9.—Destroyer built shortly after World War I.

WORLD WAR II

On the morning of December 7, 1941, the “Rising Sun” came out of the west when the Japanese pounced on Pearl Harbor. On that morning, over 15 U.S. Navy ships were sunk or damaged, including all 8 battleships of the Pacific Fleet (fig. 5-10). Some 3,400 Navy and Marine Corps personnel were killed or wounded. The United States declared war on Japan the next day.



Figure 5-10.—The day of infamy.

Pacific Arena

The Japanese attack on Pearl Harbor was the first attack in history conducted solely from aircraft carriers. The attack proved beyond a doubt that aircraft had become an essential part of naval armament. Fortunately, no United States carriers were lost during the attack on Pearl Harbor. The USS *Yorktown*, USS *Wasp*, and USS *Ranger* were in the Atlantic, and the USS *Saratoga* was in San Diego. The USS *Lexington* was about 425 miles south of Midway, and the USS *Enterprise* was 200 miles west of the Pearl Harbor.

The Japanese Imperial Navy captured island after island in the South Pacific as it advanced toward Australia. The U.S. Navy's air arm finally stopped that advance in early May 1942, which set the scene for the turning point of the war in the Pacific.

At the **Battle of Coral Sea**, the two fleets never saw each other—the battle was fought entirely with aircraft launched from carriers. The USS *Lexington* and USS *Yorktown*, jointly under the command of Admiral F. J. Fletcher, launched 93 attack planes against the Japanese carriers *Shoho*, *Shokaku*, and *Zuikaku*. Within 5 minutes, the *Shoho* was hit with 10 heavy bombs and 15 torpedoes. The USS *Lexington's* radio crackled with the voice of Lieutenant Commander Dixon of the air group, “Scratch one flattop. Dixon to carrier, scratch one flattop!” The other two enemy carriers were so badly damaged that their services to the Japanese fleet were lost for weeks. The United States suffered the loss of an oiler, an escort, and the USS *Lexington*. Even though American losses were heavy in tonnage and men, Australia had been saved from invasion.

Student Notes:

The turning point of the war in the Pacific came the next month at the **Battle of Midway**. The Japanese had concentrated on the central Pacific with the intention of occupying Midway Island. The four-carrier Japanese task force was met by a U.S. carrier force. The U.S. force included the carriers USS *Yorktown*, USS *Hornet*, and USS *Enterprise*, plus Navy, Marine, and Army air units from Midway.

Dive bombers proved to be the downfall of the Japanese carrier force. When the battle ended, the Japanese had lost four carriers, one heavy cruiser, and 258 aircraft. The United States had lost 132 aircraft, the destroyer USS *Hammann* (DD 412), and the aircraft carrier USS *Yorktown* (CV 5). In April 1943, another USS *Yorktown* was commissioned; and it continued in the proud tradition established by its predecessor.

In November 1942, the Navy fought the **Battle of Guadalcanal**. After 3 days of bitter fighting, the Japanese naval forces retreated, and U.S. Marines were able to secure the island. With the fall of Guadalcanal, the southern Solomons came under Allied control and Australia was in less danger of attack.

On June 19, 1944, U.S. Task Force 58 (fig. 5-11) caught the combined Japanese fleet steaming out of Tawi in the southern Philippines. The **Battle of the Philippine Sea** ended with the Japanese carrier forces short of ships, planes, gas, and pilots. Unable to replace these, the Imperial Navy was never able to recover from losses, although many desperate battles were to follow.



Figure 5-11.—Part of Task Force 58 at anchor in the Marshall Islands, April 1944.

The final blow to the Japanese Navy came October 23, 1944. In a last-chance effort to salvage the Philippines, the Japanese sent a naval force to the **Leyte Gulf** to attack the U.S. Fleet. Their plan backfired and

the operation was a complete failure: It was the deciding catastrophe for their Navy. The loss of the Philippines severed their empire, and the homeland was cut off from its main source of supply from the south. With the losses at **Okinawa** and **Iwo Jima**, the war in the Pacific was approaching its final days.

European Arena

On the Atlantic side of World War II, the U.S. Navy had been fighting off U-boats in the long-running Battle of the Atlantic. The Navy protected convoys bound for Europe. Small escort carriers dubbed “jeeps” were operating with convoys; and their aircraft were successfully attacking German submarines as they surfaced to recharge their batteries. Limited range of land-based airplanes was no longer a significant factor; and distance offered no sanctuary for the U-boat. Eventually, the German submarine menace was contained, and England and Europe got vital supplies and troops.

The Navy’s most notable Atlantic action may have been its part in the June 6, 1944, invasion of Normandy—the largest amphibious operation in history. The greatest armada ever assembled carried out minesweeping, shore-bombardment, amphibious operations, and transported supplies and troops. Those operations let the Allies complete D-Day landings successfully and eventually push on to Germany.

Widespread fighting on the oceans brought about the building of a fleet unlike any in history. This was a swift striking force. It had the advantages of speed, mobility, and surprise, yet it possessed the firepower and protective armor to stand and slug it out with enemy forces. Such a fleet was made up of ships with names synonymous with heroism, such as the USS *Tarawa*, USS *Missouri* (fig. 5-12), USS *Tucson*, USS *Higbee*, and USS *O’Bannon*.

Other Events during WWII

During the 5-year period ending in late 1944, 9 million tons of vessels had been added to the U.S. Navy. One novel development was the large assortment of landing ships that began appearing in the early stages of the war.

Student Notes:



Figure 5-12.—V-J Day aboard USS *Missouri*. Fleet Admiral Nimitz signs the Japanese surrender document on 2 September 1945.

Possibly the most versatile of the many new types of ships built during World War II were the destroyer escorts, now called *frigates*. Other types built during that time included attack cargo ships, transports, barracks ships, net tenders, repair ships, radar pickets, minelayers, and mine sweepers. Those ships, as well as many other types of ships too numerous to mention, changed the shape of the U.S. Navy almost overnight.

When the Japanese attacked Pearl Harbor, 111 American submarines were in commission, 60 in the Atlantic Fleet and 51 in the Pacific. After the invasion of North Africa, U.S. efforts were concentrated in the Pacific, leaving submarine operations in the Atlantic to U.S. Allies. The Pacific became the hunting grounds for American submarine forces.

The number of American submarines during the war peaked at 247. During the war, the United States lost 52 of these boats along with 3,505 submariners. The number of vessels sunk by U.S. submarines played a major part in the American victory in World War II. American submarines sank 1,750 Japanese merchant ships and more than 200 combatants. Those vessels represented 55 percent of the total Japanese tonnage sunk in the war. For an island nation such as Japan, those figures represented a fatal impact.

Radar and sonar came into full use during World War II. The English used them initially to combat German U-boats, but they were also incorporated into the submarine as an attack aid. Sonar has become the most

important of the submarine's senses. Hydrophones listen for sounds from other ships and the echoes of sound waves transmitted from the submarine itself.

Women in the Navy

Twenty-one years after the Yeomanette era, women were needed to fill an acute shortage of personnel caused by rapid expansion of the Navy for World War II. On July 30, 1942, Congress authorized establishment of the Women's Reserve, with an estimated goal of 10,000 enlisted women and 1,000 officers. This new organization had certain congressional limitations. Women could not serve at sea or outside the continental United States and could not exercise military command over men. They could not go beyond lieutenant commander on the promotion ladder. On August 4, 1942, Mildred Helen McAfee was sworn in as Lieutenant Commander, U.S. Naval Reserve, to become Commander of the Women's Reserve.

A boot camp for women volunteers was established at Hunter College in New York City. It was promptly dubbed USS Hunter. Since basic training lasted from 6 to 8 weeks, every other week some 1,680 women seamen had to be housed, fed, and uniformed. (The housing was provided in 17 apartment buildings near the college taken over by the Navy.)

At about the same time, three other schools were commissioned in the Middle West to train enlisted women as Yeomen, Storekeepers, and Radiomen. In July 1943, the Navy Japanese Language School in Boulder, Colorado, opened to women.

Navy women came to work the same hours as Navy men, standing both day and night watches. They stayed in uniform at all times except in the barracks or when engaged in active sports. They were called on to meet the same standards of neatness and good behavior as those required of men in uniform. In short, women were fitted into the Navy as an integral part of the service. They slipped into the same spot in the chain of command as the men they replaced and performed the same duties. This system gave Navy women the same status, responsibilities, and restrictions as men.

The first Reserve classification for women officers was W-V(S), meaning Woman-Volunteer (Specialist).

Student Notes:

Professor Elizabeth Reynard (later LT Reynard) came up with the term *Women Appointed for Voluntary Emergency Service* (WAVES). That term was later changed to *Women Accepted for Voluntary Emergency Service*. The initials WR and the term *Women's Reserve* were official, and some women preferred these terms to the equally official, but less formal, term WAVES.

As the Women's Reserve observed its second anniversary on July 30, 1944, it could look back upon a brief but glowing record of expansion and achievement. During its 2 years of existence, its members had freed enough officers and men to crew a fleet of 10 battleships, 10 aircraft carriers, 28 cruisers, and 50 destroyers.

During World War II, WAVES were directly eligible for 34 different ratings. They performed nearly every conceivable type of duty at 500 naval shore establishments.

THE POSTWAR YEARS

Unlike the placid years following World War I, the postwar period from 1945 to 1950 was a busy one. The United States emerged from the war with an awareness that it couldn't afford any major cutbacks in military strength. The United States had become a nation committed to trading with and protecting other countries. The only way that responsibility could be discharged was by the maintenance of a strong and ready Navy.

Navy women. Since the WAVES had proved their worth during the war, the Navy was reluctant to give up its programs for women. After the war, a number of Navy women were retained in service. However, by the fourth anniversary of the program, only 9,800 remained on active duty.

The Women's Armed Services Integration Act, Public Law 625, was passed by the Senate and the House and signed by the President. It became law June 12, 1948, marking another step forward. That was perhaps the most significant milestone to date in the history of women in the Navy. That act gave women full partnership on the Navy team and abolished the Women's Reserve. For the first time, women became a part of the Regular Navy.

At the same time the Regular Navy opened to women, the Reserves established a program for women volunteers. The new laws authorized the transfer of all

members to appropriate components of the permanent Naval Reserve.

Antarctic exploration. Following World War II, the U.S. Navy turned its attention once again to the exploration of Antarctica. In 1946, Operation Highjump got underway. Seaplanes flying from the open sea and the airstrip at Little America photographed the interior and coastline of the "white continent."

Naval aviation. Naval researchers continued to develop new, specialized ships and new planes capable of providing swift aid to Allies in a world of uneasy peace. All naval aircraft, featuring the most advanced radar and sonar systems, were redistributed into patrol, attack, and fighter squadrons.

Jet aircraft were perfected during the postwar years. In June 1948, a squadron of FH-1 *Phantoms* qualified for carrier operations aboard USS *Saipan* (CVL-48). Carrier flight decks were redesigned to launch and recover jets.

Submarines and nuclear power. During this time, the Navy was speeding development of the most revolutionary advancement in the history of submarines—nuclear power. Early in World War II, as part of the Navy's initial research on the atom, proposals were made to develop atomic power for use afloat. However, most of that work was diverted to development of the atomic bomb.

Nuclear power was the long-awaited propulsion source for the submarine. It turned the submersible surface ship into a true submarine, capable of almost indefinite operation. It was no longer bound to the earth's atmosphere.

In September 1947, Captain H. G. Rickover informally requested the first study of the application of a high-pressure, water-cooled reactor for a submarine. Personnel of the Daniels Pile Division at Oak Ridge, Tennessee, undertook that study.

In January 1948, the Department of Defense requested that the Atomic Energy Commission undertake the design, development, and construction of a nuclear reactor that would propel a naval submarine. In December 1948, the Commission contracted the Westinghouse Electric Corporation to develop design, construct, operate, and test a prototype nuclear propulsion plant. The outcome of those efforts was USS *Nautilus*.

Student Notes:

REVIEW 5 QUESTIONS

Q1. What was the significance of the Battle of Coral Sea?

Q2. List the other major naval battles in the Pacific during World War II and describe their significance.

a.

b.

c.

d.

e.

Q3. Describe the role of the U.S. Navy in the Atlantic Ocean during World War II.

Q4. The shape of the Navy changed during World War II because of new ships introduced during this period. List some of the types of ships that were introduced during this period.

Q5. What is the significance of the date 30 Jul 43?

Q6. What is the significance of the Women's Armed Services Integration Act?

THE NAVY FROM 1950 TO 1990s

Learning Objective: When you finish this chapter, you will be able to—

- Recognize the roles and responsibilities of the Navy from 1950 to 1990 to include the Korean Conflict, Vietnam, and the Persian Gulf.

As the second half of the 20th century arrived, the United States had been at peace for 5 years, and the Navy was involved in many scientific pursuits. However, scientific and exploratory pursuits were interrupted by the outbreak of the Korean Conflict.

THE KOREAN CONFLICT

Supported by the United Nations, the United States agreed to give the Republic of Korea air and naval assistance. Three days after that decision, June 29, 1950, the cruiser USS *Juneau* and the destroyer USS *Dehaven* fired the first shots of the war.

When North Korea attacked south of the 38th parallel, the Navy was called on for close air support to knock out bridges and block enemy supply routes. Navy

Student Notes:

jets flew from carriers for the first time in a war situation. Unlike World War II, the enemy didn't have the capability to strike our carriers, so pilots launched their Corsairs and Banshees on the first sustained ground-support missions in history.

The helicopter also came of age during the Korean Conflict. First studied and developed in 1942 when the Navy received four Sikorskys, the choppers were spotters for artillery. In Korea, they flew emergency supply runs and took part in direct combat duties. Later, the helicopter was used as a cargo transport between ships during underway replenishment, search and rescue missions, and ASW exercises. Korea was the testing ground for the helicopter and many other innovations our forces currently use.

On September 15, 1950, under massive shore bombardment by U.S. Navy ships, the amphibious landings at Inchon began. The successful operation cut enemy communications, split enemy forces, and dissolved enemy resistance in that area. The shelling of supply roads far inland by the battleship USS *Missouri* demonstrated a new tactical concept. That concept was the Navy's ability to intervene successfully in a ground operation far ashore.

The Korean Conflict (fig. 5-13 and fig. 5-14) lasted until July 1953. Other events were happening in the Navy while the war was being waged. For example, a program was established giving outstanding enlisted women the opportunity to receive commissions in the Regular Navy.



Photograph courtesy of Mr. Francis Jeffery.

Figure 5-13.—Korean War Memorial.



Photograph courtesy of Mr. Francis Jeffery.

Figure 5-14.—Korean War Memorial—soldier.

KOREA TO VIETNAM

The 1950s was a time of change. By the end of the decade, most operational aircraft in the attack and fighter arsenals of the sea service were jets. More and more angled-deck carriers were authorized, and new deck-edge elevators allowed simultaneous takeoffs and landings.

The USS *Nautilus*, the first nuclear submarine, was first put to sea on January 17, 1955. Under Commander Eugene P. Wilkinson, the USS *Nautilus* transmitted the historic signal, "Underway on nuclear power." On its shakedown cruise in May 1955, the USS *Nautilus* steamed submerged from New London, Connecticut, to San Juan, Puerto Rico. It traveled over 1,300 miles in 84 hours—a distance 10 times greater than the record for continuously submerged travel by any previous submarine.

After more than 2 years of operation and evaluation, the USS *Nautilus* was refueled in April 1957. On its first nuclear core, it steamed a total of 62,562 miles; it made more than half of that cruise while totally submerged. A conventionally powered submarine the size of the USS *Nautilus* would have required over 2 million gallons of fuel oil to duplicate that feat. A train of tank cars over a mile and a half long would have been necessary to transport that amount of fuel.

Student Notes:

On August 12, 1958, the USS *Nautilus* completed a history-making transpolar voyage from Pearl Harbor, Hawaii, to Portland, England. After diving under the ice near Point Barrow, Alaska, on August 1, 1958, it became the first submarine to reach the geographic North Pole.

Nuclear submarines produced after the USS *Nautilus* continued to pioneer new areas of submarine operations. The USS *Seawolf*, the Navy's second nuclear-powered submarine, operated as an active unit of the Atlantic Fleet. On October 6, 1958, it completed a record-breaking 60-day run, traveling a distance of 13,761 miles submerged.

While the USS *Nautilus* was still undergoing operational testing, the Navy began development of a ballistic missile of intermediate range. Brought from conception to initial operation in 5 years' time, the Polaris fleet ballistic missile (FBM) weapons system was mated with nuclear propulsion. That development produced a virtually invulnerable missile-firing submarine. Today, the missile-firing submarine constitutes one of the highest priority elements of the United States' deterrent capability; that is, a deterrent to nuclear conflict.

Each Polaris submarine could launch 16 two-stage ballistic missiles powered by solid-fuel rocket motors, containing a self-contained inertial guidance system. The Polaris provided a combined explosive power greater than the total of all the bombs dropped by all aircraft during World War II. Nuclear propulsion enabled these Polaris submarines to remain on patrol for extended periods, hidden beneath the surface of the sea, ready to launch their missiles.

On station, a Polaris submarine maintained complete radio silence, receiving radio messages while submerged, but not transmitting to prevent giving away its location. Each ship had two complete crews, the Blue and the Gold, of about 130 people each. The Polaris operated on a system that reflected a major change in the Navy's traditional ship-manning methods. The crews alternated on approximately 3-month-long deployments, providing maximum on-station time for the submarine. Its endurance was limited only by the limitations of its personnel.

Submarines were followed by the world's first nuclear-powered surface warships. They were the

guided-missile cruiser USS *Bainbridge*, launched April 15, 1961; the guided-missile cruiser USS *Long Beach*, commissioned September 9, 1961; and the carrier USS *Enterprise*, commissioned November 25, 1961. On October 3, 1964, those three ships ended Operation Sea Orbit, a 64-day long, around-the-world, unrefueled cruise.

It was during this time that space exploration (fig. 5-15) began. The *Vanguard*, a 3 1/2-pound payload, was developed by the Naval Research Laboratory. On March 17, 1958, it was placed into orbit to test a system designed to launch earth satellites during the international geophysical year (IGY). Now the oldest man-made satellite in orbit, it is expected to remain aloft for 2,000 years.



Figure 5-15.—Seven original NASA astronauts.

Naval officers also participated in space exploration. On May 5, 1961, Commander Alan B. Shepard, Jr., made America's first suborbital flight. The 15-minute shot in *Freedom 7* went 116.5 miles into space.

VIETNAM

Although the United States was at peace following the Korean Conflict, events were building that would plunge the country into another conflict. Since 1959, the French had been involved in fighting in a country most Americans had never heard of—Vietnam.

Student Notes:



Photograph courtesy of Mr. Francis Jeffery.
Figure 5-16.—The Wall .

Americans were introduced to Vietnam in 1965. In that year, the United States entered the Vietnam Police Action. This police action, which caused conflict at home as well as on the battlefield, lasted until January 1973. Figures 5-16 through 5-19 commemorate American actions in Vietnam.

The Navy's operations in support of South Vietnam's struggle against communist military aggression consisted mainly of gunfire support and carrier aircraft operations. These operations included coastal interdiction patrols against North Vietnamese ships moving troops and supplies to the south. They also included riverine operations by a swarm of various types of patrol craft in the maze of waterways in South

Vietnam's delta area. (By early 1972 all boats and the responsibility for delta operations had been turned over to the South Vietnamese Navy.) Naval construction battalions (Seabees) built several military bases and constructed water and sanitary facilities for local communities. Often, as in World War II, they engaged in fighting as they worked. Navy medical personnel served in the field with Marine Corps and Seabee units, as they did in World War II and in the Korean Conflict. They often performed their duties under fire and often sacrificed themselves to protect their charges from further harm. As in previous wars, U.S. Navy service and amphibious forces transported over 90 percent of the personnel and supplies used in support of that conflict.



Photograph courtesy of Mr. Francis Jeffery.
Figure 5-18.—Vietnam memorial—soldier.



Photograph courtesy of Mr. Francis Jeffery.
Figure 5-17.—Vietnam memorial.



Photograph courtesy of Mr. Francis Jeffery.
Figure 5-19.—Women in war—memorial.

Student Notes:

During the Vietnam era, five new attack carriers joined the fleet, including the world's first nuclear-powered carrier, USS *Enterprise* (CVN 65).

Vietnam was a different kind of war, a war in which the Navy's role was ever changing. The Navy used both new and old aircraft—OV-10 *Broncos*, propeller-driven *Skyraiders*, attack planes like A-4 *Skyhawks* and A-7 *Corsairs*, and fighter planes like F-8 *Crusaders*. It used various support aircraft for ASW, early warning, and advance communications links.

OTHER DEVELOPMENTS

Even during the Vietnam Police Action, the Navy was involved in exploration and development. Former Navy pilot Neil Armstrong became the first man to set foot on the moon on July 20, 1969. On November 14, 1969, the all-Navy *Apollo 12* crew lifted off from the Kennedy Space Center on the second lunar expedition.

The crew consisted of Commanders Charles Conrad and Richard Gordon and Lieutenant Commander Alan Bean. Another all-Navy crew (Captain Charles Conrad, Jr., and Commanders Joseph P. Kerwin and Paul J. Wietz) splashed down on the first Skylab mission on June 22, 1973. The crew set numerous records and accomplished virtually all of its objectives.

Space. The Navy stands tall in the first 10 years of manned space exploration. Records show that five of the six men to walk on the surface of the moon during that time had formerly been trained as naval aviators.

Research. In the 1960s, Navy scientific undersea research resulted in the USS *Alvin*. The USS *Alvin* was the Navy's first deep diving vehicle. It was successfully tested at 6,000-foot depths on July 20, 1965. The next month, 10 aquanauts, including astronaut Commander M. Scott Carpenter, entered the Sealab II capsule, 205 feet below the surface of the sea off the coast of La Jolla, California. Carpenter remained underwater for 30 days in a successful experiment of submerged living and working conditions. On January 25, 1969, the first nuclear-powered, deep-submergence research and ocean-engineering vehicle, NR-1, was launched. That five-man vessel can operate for weeks at a time at great depths.

Weapons. In early 1965 came the announcement of the proposal to develop a new missile for the fleet

ballistic missile system—the Poseidon. The growth potential of the ballistic missile submarine launching system has enabled the Poseidon to fit into the same 16-missile tubes that carried the Polaris. Like the Polaris A-3, it is able to reach any spot on earth from its nuclear-powered hiding place. Its increased accuracy, greater payload, and improved ability to penetrate enemy defenses make the Poseidon more effective than the Polaris.

On July 19, 1974, construction of the new Trident undersea nuclear weapons system commenced. The Trident system consists of three principal elements: a nuclear-powered fleet ballistic missile submarine (SSBN), a strategic weapons system (the missile), and an integrated logistics support system. The first Trident submarine was the USS *Ohio* (SSBN-726), a nuclear powered fleet ballistic missile submarine. The USS *Ohio* was delivered to the Navy in 1981. Since then, the Navy has accepted delivery of 10 more Trident submarines.

THE PERSIAN GULF

As with other wars, conflicts, or areas of military aggression, U.S. naval forces operate in the hostile area of the Persian Gulf. U.S. naval forces have been present in this vital oil-rich region for many years.

The events leading to an increased number of U.S. naval units in the Persian Gulf (fig. 5-20) began in the mid 1980s. Iran and Iraq were at war. Iraq had begun attacking Iranian oil facilities and tankers; in response, Iran began attacks against ships flying flags of countries sympathetic to Iraq. U.S. Navy ships quickly began escort and protection operations for U.S.-flagged tankers.



Figure 5-20.—Persian Gulf award.

Student Notes:

As the war between Iran and Iraq widened, so did the dangers to U.S. Navy ships operating in the Gulf. Iran started laying mines in the Gulf and began using small suicide boats to raid U.S. tankers and naval units. Iraq also possessed weapons that could cause tremendous damage and casualties. These weapons proved costly to the United States. In May 1987, an Iraqi aircraft mistakenly fired two missiles that struck USS *Stark* (FFG-31), killing 37 sailors and wounding many more. In April 1988, Iran's use of mines caused considerable damage to USS *Samuel B. Roberts* (FFG-58). Until that time, the U.S. Navy's presence was largely defensive. When forced to take offensive action, the United States acted quickly. U.S. Navy ships bombarded an Iranian oil platform being used as a command post and sank a mine-laying vessel carrying out operations.

DESERT SHIELD/DESERT STORM

On 2 August 1990, the president of Iraq Saddam Hussein, ordered the world's fourth largest army from Iraq to invade the country Kuwait. The United States deployed a major joint force which served as the foundation for a powerful 33-nation military coalition to stem Iraq's brutal aggression. Operation Desert Shield/Desert Storm was born. The United States Navy provided the sea control and maritime superiority that paved the way for the introduction of U.S. and allied air and ground forces. The United States offered strong leadership for the multinational naval force.

Desert Shield/Desert Storm brought together the largest force of Navy warships assembled in a single theater since World War II, adding a powerful punch to Navy forces already on scene the night of Iraq's invasion of Kuwait. Long-established maritime superiority facilitated the largest, fastest strategic sealift in history, with more than 240 ships carrying more than 18.3 billion pounds of equipment and supplies to sustain the forces of Desert Shield/Desert Storm.

Under the Navy's Total Force concept more than 21,000 naval reservists were called to active duty in support of Desert Shield/Desert Storm. Serving in specialties from medicine to mine warfare, reservists worked alongside their active duty counterparts in the

Persian Gulf. Others filled critical vacancies on the home front.

Saddam Hussein's rejection of diplomatic efforts to solve the crisis led to the final decision to restore Kuwait's sovereignty by military force. The ensuing air war and the effects of the economic embargo decimated Iraq's military infrastructure, severed communication and supply lines, smashed weapons arsenals, and destroyed morale. Some of the first shots fired were from Navy ships in the Persian Gulf and Red Sea, as they launched salvos of Tomahawk cruise missiles against pre-programmed targets in Iraq.

After an impressive 38-day air campaign, the ground offensive began with allied forces sweeping through Iraqi defenses in blitzkrieg fashion. The allied push into Kuwait and southern Iraq was made easier by the amphibious forces on station in the Persian Gulf. The threat they posed forced tens of thousands of Iraqi troops to maintain positions along the Kuwaiti coastline to defend against attack from the sea. The Iraqi army was crushed after a mere 100 hours. Iraqi troops—tired, hungry and war-weary from 6 months of economic blockade and more than a month of relentless allied bombing—surrendered by the thousands. Less than 7 months after the Iraqi invasion, Kuwait was once again free.

It is likely that Navy ships will continue to represent and protect U.S. interests in the region for the foreseeable future.

REVIEW 6 QUESTIONS

- Q1. List some of the Navy's roles during the Korean Conflict.
- a.
 - b.
 - c.
 - d.

Student Notes:

Q2. List some of the Navy's missions during the Vietnam Police Action.

- a.
- b.
- c.

Q3. What are other actions the Navy was involved with during the same timeframe as the Vietnam Police Action?

- a.
- b.

Q4. What service did the Navy provide during the Iraq – Iran War?

Q5. List the Navy's contributions during Operation Dessert Storm.

- a.
- b.
- c.

ships, and helicopter flattops. The era of the 50s, 60s, 70s, 80s, and on into the 90s has seen the emergence of the nuclear Navy.

The heart of today's nuclear fleet is a highly complicated unit known as the nuclear reactor, which offers the following advantages:

- Almost unlimited steaming endurance at high speed. Nuclear ships have increased flexibility; an ability to obtain ammunition, aviation fuel, and other supplies from remote places in a minimum amount of time; and an attack ability in a much greater area.
- Reduced vulnerability. Nuclear ships need not remain exposed as long as nonnuclear vessels during replenishment. They can maneuver to avoid attack.
- Reduced dependence on logistic support. Nuclear ships require fewer mobile support forces.
- Greater attack effectiveness. Nuclear ships can remain in battle areas for a greater length of time and have a greater ability to exploit weather conditions to their advantage.
- Elimination of huge funnels. That provides more room for such items as a big, powerful radar.
- Power available upon command. Nuclear reactors eliminate the need to order "more boilers on the line" a half hour before full power is desired. Heat is produced in the nuclear reactor; in turn, steam and power is produced with little delay. Reduction from full power to one-third or stop is equally responsive.
- Reduced maintenance. The absence of corrosive stack gases cuts down on the wear and tear of the ships and a lot of at-sea and in-port repairs.

The Navy has been advancing in other areas of the surface fleet as well. An example is the new amphibious assault ships (LHAs). The LHAs are the largest and fastest amphibious ships in the Navy inventory and offer the greatest operational versatility in the history of amphibious warfare.

The size of the LHAs alone is impressive. The first of the LHAs, the USS *Tarawa*, is 820 feet long and 106 feet wide. The high point of its mast is 221 feet above the keel, and it has a full displacement of 39,300 tons. It can carry a large landing force with all its equipment and supplies, landing them either by helo or amphibious craft or both.

SUMMARY

The United States Navy began more than 200 years ago with two ships, but today we are the finest naval force in history. The history of the Navy is a big story and an exciting one. We've only rippled the surface here, but maybe we've stimulated your curiosity enough that you will want to take a closer look at your Navy's past. If so, visit your ship or station library. You will find many fine books on naval history there.

From Flamborough Head to the Persian Gulf, the U.S. Navy has always been "on station" in time of trouble. The U.S. Navy's mission of preparedness to conduct prompt and sustained combat operations at sea means the U.S. Navy will be present at the first sign of conflict.

U. S. Navy ships continued to change with even greater momentum, ushering in another new era—that of nuclear propulsion, jet power, rockets, and guided missiles. New types of ships have emerged—ships such as guided-missile cruisers, tactical command

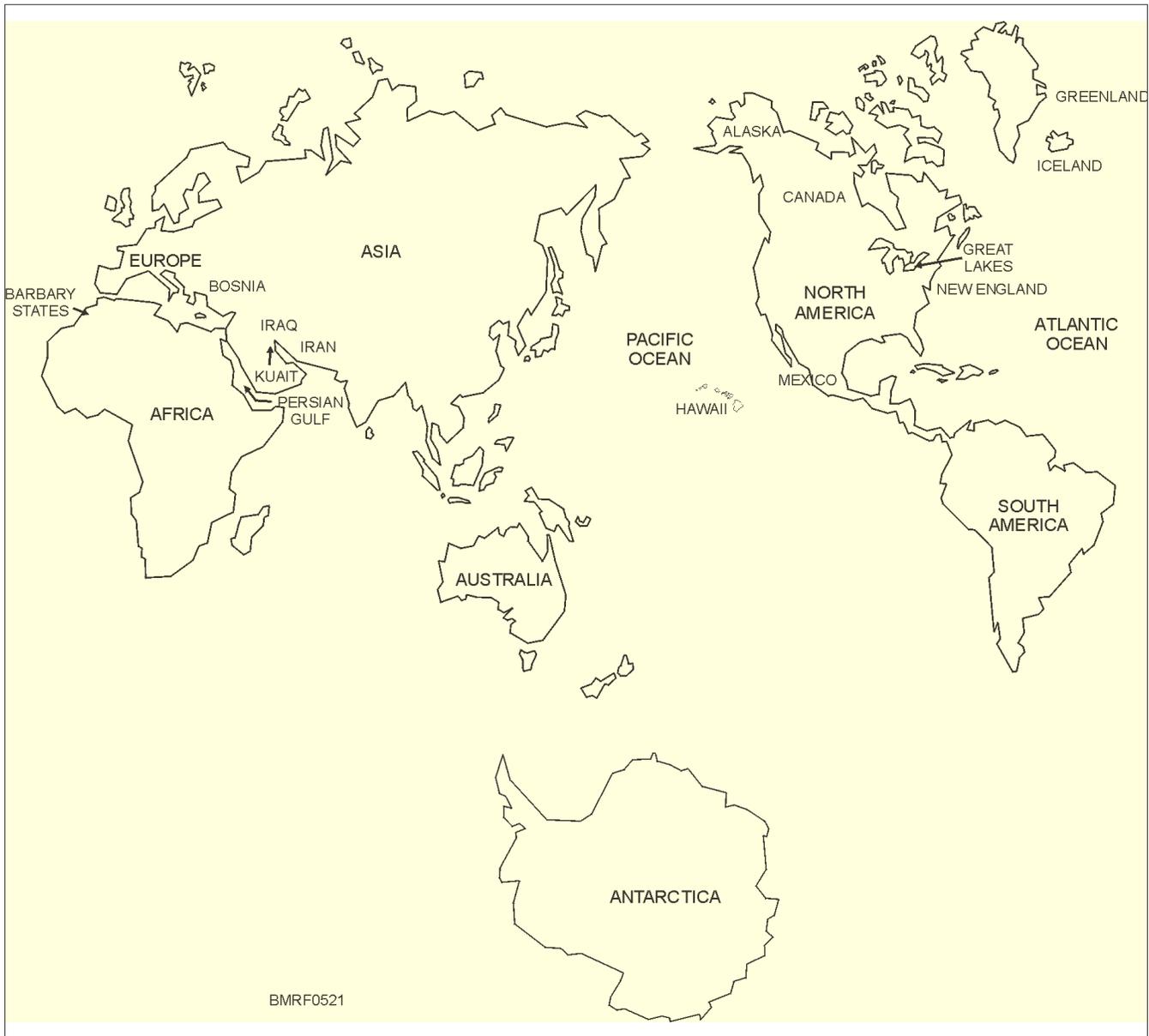
The primary advantage of these general-purpose assault ships is tactical integrity—getting a balanced force to the same point at the same time.

Spruance-class ships are the Navy’s prime ASW destroyers. They are fitted with our most powerful sonar, helicopters, our best ASW weapons, and the Harpoon surface-to-surface missile system.

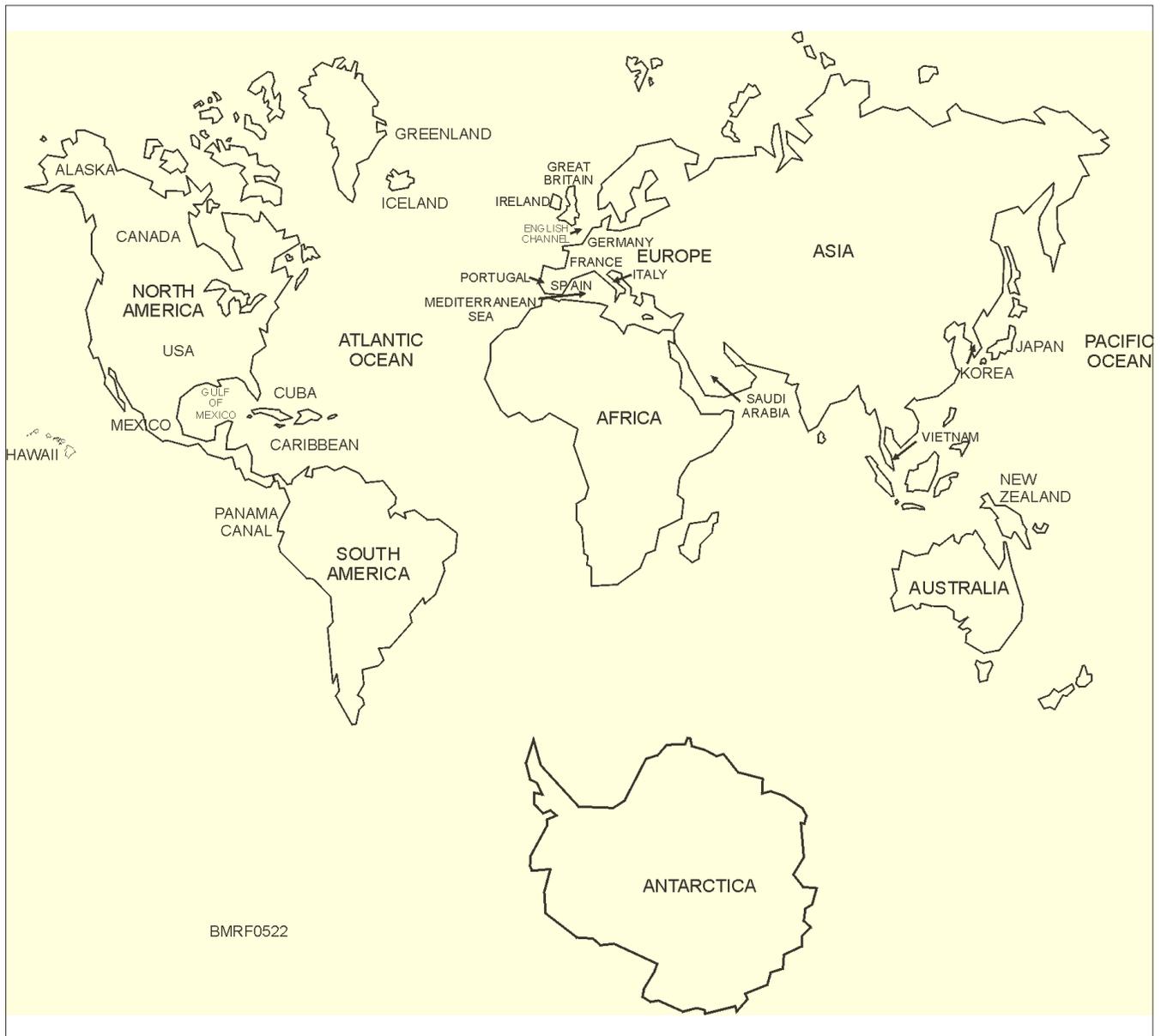
The most recent additions to the surface fleet are the Ticonderoga-class cruisers and the Arleigh Burke-class destroyers. Both are powered by gas turbines and are capable of high-speed transits. They are also outfitted

with the Navy’s new Aegis weapons system. That system has the capability to track and engage multiple targets, using a complex system of radars, missiles, guns, torpedoes, and self-defense systems. These capabilities make these cruisers and destroyers the most survivable units of today’s surface fleet.

Our ability to quickly deploy large carrier battle groups and surface action groups quickly will assure our allies of our ability to exercise sea control. That ability, coupled with the U.S. submarine forces’ strategic deterrence objective, will allow the United States and its allies the ability to deter further hostile action worldwide.



Student Notes:



REVIEW 1 ANSWERS

- A1. The United States Navy was formed because **the Second Continental Congress realized that the survival of the colonies as independent from England depended on the formation of naval forces.**
- A2. During the late 18th century, battleships were classified as **ships-of-the-line.**
- A3. The craft developed in 1775 was a **warfare submarine, named the *Turtle*, and invented by David Bushnell.**
- A4. This raid was the **first amphibious operation carried out by the American Navy and Marines.**

- A5. The first official recognition of the American Stars and Stripes flag by a foreign nation was given by (a) **France** (b) to the **USS *Ranger*.**

REVIEW 2 ANSWERS

- A1. After the Revolutionary War, **the U.S. Navy defended America's small merchant ship fleet from the Barbary pirates.**
- A2. Between the Revolutionary War and the War of 1812, the U.S. Navy was involved with the—
 - a. **Quasi War with France** and
 - b. **Barbary States War.**

- A3. Lord Nelson said that the **operation executed by LT Stephen Decatur and 84 seamen by slipping into the harbor of Tripoli and burning the captured frigate *Philadelphia*** was “one of the most bold and daring acts of the age.”
- A4. Two actions of the U.S. Navy during the War of 1812 were—
- The sea battle between the American frigate USS *Constitution* and the British frigate *Guerriere* and**
 - The victory of Captain Oliver Hazard Perry over the British squadron on Lake Erie.**
- A5. During the Mexican-American War, the Navy **blockaded the port cities on the Gulf and the “Mosquito Fleet” provided protective action during the first large-scale amphibious operation in U.S. military history.**
- A4. Alfred T. Mahan influenced naval strategy through his books that stressed the idea that **without control of the seas, a nation couldn’t expect victory. He was one of the first instructors at the Naval War College and shared his knowledge on sea power and the importance of understanding naval needs.**
- A5. The Spanish-American war began when the **Maine was blown up and 250 Sailors were killed.**
- A6. **Commodore George Dewey** was instrumental in quickly ending the Spanish-American War.

REVIEW 4 ANSWERS

- A1. The development of **airplanes** occurred at this time.
- A2. The U.S. Navy was deployed to **stop German U-boats from practicing unrestricted warfare and terrorizing the seas.**
- A3. During this war, **destroyers were used as the main defense against German U-boats. They also served as an escort for troop ships and supply convoys for the allies.**
- A4. During this war, the air forces **supported surface antisubmarine forces.**
- A5. During this war, **women enlisted in the Navy as Yeoman (F), releasing enlisted men for active service at sea.**
- A1. During the last part of the 19th century, naval developments included—
- Introduction of ironclad ships**
 - Introduction of riverboats, rams, and gunboats**
 - Development of submarines**
 - Construction of steeled-hull protected cruisers, signaling the end of the ironclads**
 - Development of self-propelled torpedo and long-range torpedo boats**
 - Development of the internal combustion engine for ships**
- A2. After developing the ironclad, the Confederate Navy developed the **submarine.**
- A3. During the Civil War **Battle of Mobile bay, Admiral Farragut** gave order, “Damn the torpedoes! Full speed ahead.”
- A1. The Battle of Coral Sea was fought by **aircraft, all of which were launched from carriers. This battle saved Australia from being invaded by the Japanese.**
- A2. The major naval battles in the Pacific during World War II and their significance is as follows:
- Battle of Guadalcanal—The Solomon Islands came under allied control and the danger of Australia coming under Japanese attack was lessened**

REVIEW 5 ANSWERS

Student Notes:

- b. **Battle of the Philippine Sea—Heavy losses of ships, aircraft, and pilots paralyzed the Japanese Fleet**
 - c. **Battle of Leyte Gulf—Deciding blow to the Japanese Navy. Losing control of the Philippines meant that the Japanese homeland was cut off from its main source of supplies from the south.**
 - d. **Battle of Midway—The turning point of the war in the Pacific.**
 - e. **The Battles of Okinawa and Iwo Jima—Defeat of the Japanese in these battles signaled an approach to the end of the war.**
- A3. During World War II, the U.S. Navy **protected convoys bound for Europe from German U-boat attack.**
- A4. Some of the types of ships that changed the shape of the Navy changed during World War II include **landing ships, frigates, attack cargo ships, transport ships, barracks ships, net tenders, repair ships, radar pickets minelayers, and mine sweepers.**
- A5. On 30 Jul 1943, **Congress authorized the establishment of the Women’s Reserve to fill acute shortages of personnel during World War II.**
- A6. The Women’s Armed Services Integration Act **abolished the Women’s Reserve and gave women full partnership in the Navy.**
- b. **Navy helicopters spotted enemy artillery**
 - c. **Navy ships supported the amphibious landing at Inchon through massive shore bombardment before ground forces landed**
 - d. **The Navy successfully used its battleships to intervene in ground operations far ashore.**
- A2. Some of the Navy’s missions during the Vietnam Police Action included—
- a. **Surface ship-based gunfire support**
 - b. **Carrier-based aircraft operations**
 - c. **Coastal interdiction patrols against the enemy**
- A3. Other actions the Navy was involved with during the same timeframe as the Vietnam Police Action include—
- a. **The manned space exploration program**
 - b. **Manned undersea exploration, using deep submergence vehicles and underwater laboratories**
- A4. During the Iraq – Iran War, **the Navy escorted and protected oil tankers in transit to and from the Persian Gulf against Iranian attacks.**
- A5. The Navy’s contributions during Operation Desert Storm included—
- a. **Providing sea control**
 - b. **Naval gunfire support for sea to ground forces**
 - c. **Surface and subsurface missile attacks on selected targets in Iraq**

REVIEW 6 ANSWERS

- A1. Some of the Navy’s roles during the Korean Conflict included—
- a. **Providing close air support to knock out bridges and block enemy routes with the use of jets from carriers**