Brief Histories of

U.S. Government Agencies

Volume Two

Compiled and Edited by

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About the Editor

Michael Erbschloe has worked for over 30 years performing analysis of the economics of information technology, public policy relating to technology, and utilizing technology in reengineering organization processes. He has authored several books on social and management issues of information technology that were published by McGraw Hill and other major publishers. He has also taught at several universities and developed technology-related curriculum. His career has focused on several interrelated areas:

- Technology strategy, analysis, and forecasting
- Teaching and curriculum development
- Writing books and articles
- Publishing and editing
- Public policy analysis and program evaluation

Books by Michael Erbschloe

Social Media Warfare: Equal Weapons for All (Auerbach Publications)
Walling Out the Insiders: Controlling Access to Improve Organizational Security (Auerbach Publications)
Physical Security for IT (Elsevier Science)
Trojans, Worms, and Spyware (Butterworth-Heinemann)
Implementing Homeland Security in Enterprise IT (Digital Press)
Guide to Disaster Recovery (Course Technology)
Socially Responsible IT Management (Digital Press)
Information Warfare: How to Survive Cyber Attacks (McGraw Hill)
The Executive's Guide to Privacy Management (McGraw Hill)
Net Privacy: A Guide to Developing & Implementing an e-business Privacy Plan (McGraw Hill)

Introduction

Concern for the preservation of the records of the nation was expressed early. "Time and accident," Thomas Jefferson warned in 1791, "are committing daily havoc on the originals deposited in our public offices." But it was not until the early 1930s that historians and others concerned with the preservation of the nation’s records saw their hopes realized.

The National Archives and Records Administration (NARA) is the nation's record keeper. Of all documents and materials created in the course of business conducted by the United States Federal government, only 1%-3% are so important for legal or historical reasons that they are kept by NARA forever.

Many people know the National Archives as the keeper of the Declaration of Independence, the Constitution, and the Bill of Rights. But we also hold in trust for the public the records of ordinary citizens—for example, military records of the brave men and women who have fought for our country, naturalization records of the immigrants whose dreams have shaped our nation, and even the canceled check from the purchase of Alaska.

In a democracy, records belong to the people, and for more than seven decades, NARA has preserved and provided access to the records of the United States of America. Records help us claim our rights and entitlements, hold our elected officials accountable for their actions, and document our history as a nation. In short, NARA ensures continuing access to the essential documentation of the rights of American citizens and the actions of their Government.

The National Archives was established in 1934 by President Franklin Roosevelt, but its major holdings date back to 1775. They capture the sweep of the past: slave ship manifests and the Emancipation Proclamation; captured German records and the Japanese surrender documents from World War II; journals of polar expeditions and photographs of Dust Bowl farmers; Indian treaties making transitory promises; and a richly bound document bearing the bold signature "Bonaparte"—the Louisiana Purchase Treaty that doubled the territory of the young republic.

NARA keeps only those Federal records that are judged to have continuing value—about 2 to 5 percent of those generated in any given year. By now, they add up to a formidable number, diverse in form as well as in content. There are approximately 10 billion pages of textual records; 12 million maps, charts, and architectural and engineering drawings; 25 million still photographs and graphics; 24 million aerial photographs; 300,000 reels of motion picture film; 400,000 video and sound recordings; and 133 terabytes of electronic data. All of these materials are preserved because they are important to the workings of Government, have long-term research worth, or provide information of value to citizens.

In addition, NARA must also manage the rapidly growing number of electronic Government records. Now being developed, the Electronic Records Archives (ERA) is our strategic response to the challenge of preserving, managing, and providing access to electronic records. ERA will keep essential electronic Federal records retrievable, readable, and authentic for as long as they remain valuable—whether that is a few years or a few hundred years.

(Link: https://www.archives.gov/publications/general-info-leaflets/1-about-archives.html)

Exploring History

The National Archives sponsors the History Hub which is a pilot crowd sourcing platform. It is a place to share information, work together, and find people based on their experience and interests. Experts from the National Archives as well as other experts, history enthusiasts, and citizen archivists are available to help with your research. History Hub offers tools like discussion boards, blogs, and community pages to bring together experts and researchers interested in American history. Think of it as a one-stop shop for crowd sourcing information related to your research subject. We hope to connect with and better serve customers interested in the historic records we hold. We are launching the History Hub as a pilot project so that we can test its usefulness as a crowd sourcing platform. We hope to apply what we learn to a longer-term solution that can be used by federal government agencies and other interested organizations looking to expand public participation. (Link: https://historyhub.archives.gov/docs/DOC-1012)

This book provides a brief history of U.S. Government agencies that were retrieved from the agency websites and other sources. The purpose is to preserve that documentation. The editor is not attempting to copyright public documents.

Nuclear Regulatory Commission (NRC)

Atomic Energy Commission (AEC): Before the NRC was created, nuclear regulation was the responsibility of the AEC, which Congress first established in the Atomic Energy Act of 1946. Eight years later, Congress replaced that law with the Atomic Energy Act of 1954, which for the first time made the development of commercial nuclear power possible. The act assigned the AEC the functions of both encouraging the use of nuclear power and regulating its safety. The AEC's regulatory programs sought to ensure public health and safety from the hazards of nuclear power without imposing excessive requirements that would inhibit the growth of the industry. This was a difficult goal to achieve, especially in a new industry, and within a short time the AEC's programs stirred considerable controversy. An increasing number of critics during the 1960s charged that the AEC's regulations were insufficiently rigorous in several important areas, including radiation protection standards, reactor safety, plant sites, and environmental protection.

AEC to NRC: By 1974, the AEC's regulatory programs had come under such strong attack that Congress decided to abolish the agency. Supporters and critics of nuclear power agreed that the promotional and regulatory duties of the AEC should be assigned to different agencies. The Energy Reorganization Act of 1974 created the Nuclear Regulatory Commission; it began operations on January 19, 1975. (Watch video: Moments in NRC History: Founding of the NRC) The NRC (like the AEC before it) focused its attention on several broad issues that were essential to protecting public health and safety:

Radiation Protection. The primary danger of the use of nuclear materials for the production of electrical power and a variety of industrial, medical, and research applications is that workers or members of the general public could be exposed to hazardous levels of radiation. The AEC and the NRC published standards that were intended to provide an ample margin of safety from radiation that was generated by the activities of its licensees. The radiation standards embodied available scientific information and the judgment of leading authorities in the field. But since the hazards of exposure to low levels of radiation remained an open and often controversial scientific question, the standards proved to be perpetual sources of debate.

Reactor Safety. The focus of the regulatory programs of the AEC and the NRC was prevention of a major reactor accident that would threaten public health and safety. Both agencies issued a series of requirements designed to make certain that a massive release of radiation from a power reactor would not occur. As the number of plants being built and the size of those plants rapidly increased during the late 1960s and early 1970s, reactor safety became a hotly disputed and enormously complex public policy issue. Often bitter debates over the reliability of emergency core cooling systems, pressure vessel integrity, quality assurance, the probability of a major accident, and other questions received a great deal of attention from the AEC and NRC, Congress, the nuclear industry, environmentalists, and the news media.

Three Mile Island. On March 28, 1979, the debate over nuclear power safety moved from the hypothetical to reality. An accident at Unit 2 of the Three Mile Island plant in Pennsylvania melted about half of the reactor's core and for a time generated fear that widespread radioactive contamination would result. The crisis ended without a major release of dangerous forms of radiation or a need to order a general evacuation, but it pointed out that new approaches to nuclear regulation were essential. In the aftermath of the accident, the NRC placed much greater emphasis on operator training and "human factors" in plant performance, severe accidents that could occur as a result of small equipment failures (as occurred at Three Mile Island), emergency planning, plant operating histories, and other matters. (For more information, see the Backgrounder on the Three Mile Island Accident and Watch video: Moments in NRC History: Three Mile Island - March 28,1979)

Regulation of Nuclear Materials. Although reactor safety issues received the lion's share of public notice, the NRC also devoted substantial resources to a variety of complex questions in the area of nuclear materials safety and safeguards. One such issue was the protection of nuclear materials from theft or diversion. This became a prominent question after the 1970s in response to growing concern that nuclear materials could be obtained by terrorists or nations seeking to build atomic weapons. The NRC also devoted a great deal of attention to the safety of managing high-level and low-level radioactive waste, which was a matter of public fear and bitter political controversy. And it sought to exercise its limited responsibilities in the field of radiation medicine by ensuring that patients received the proper doses of radiation from procedures under its authority.

The NRC Today

Today, the NRC's regulatory activities are focused on reactor safety oversight and reactor license renewal of existing plants, materials safety oversight and materials licensing for a variety of purposes, and waste management of both high-level waste and low-level waste. In addition, the NRC is preparing to evaluate new applications for nuclear plants. Several utilities have submitted applications for licenses to build new power reactors. See our nuclear materials, nuclear reactors, nuclear security, and radioactive waste pages for more information on NRC's current regulatory activities.

NRC History References

Through the Commission History Program, the origins and evolution of NRC regulatory policies are documented. They are discussed in five volumes of nuclear regulatory history published by the University of California Press. These volumes are:

1. Controlling the Atom: The Beginnings of Nuclear Regulation 1946-1962 (1984) (NUREG-1610).

2. Containing the Atom: Nuclear Regulation in a Changing Environment, 1963-1971 (1992) (NUREG-1933).

3. Permissible Dose: A History of Radiation Protection in the Twentieth Century (2000)

4. Three Mile Island: A Nuclear Crisis in Historical Perspective (2004)

5. The Road to Yucca Mountain: The Development of Radioactive Waste Policy in the United States (2009)

Controlling the Atom has been reprinted by the NRC and is available from the Government Printing Office as NUREG-1610. Containing the Atom has also been reprinted by the NRC and is available as NUREG-1933. Permissible Dose, Three Mile Isand and The Road to Yucca Mountain are available from the University of California Press.

The NRC has published two booklets. A Short History of Nuclear Regulation, 1946-2009 (NUREG/BR-0175, Rev. 2) summarizes major issues in the NRC's history. No Undue Risk: Regulating the Safety of Operating Nuclear Power Plants (NUREG/BR-0518) is a history of important reactor safety improvements brought about by the NRC at operating nuclear power plants.

NRC History Blogs

REFRESH — Putting the Axe to the 'Scram' Myth

Moments in NRC History: Regulating for Safety and Non-Proliferation, Part II

Moments in NRC History: Research and Test Reactors Series

Penn State University's Breazeale Reactor Celebrates 60 Years

CRUD: Another Acronym Bites the Dust

NRC Celebrates A Milestone — 40 Years of Safety and Service

Part II: Ensuring Safety in the First Temple of the Atom

Part I — The First Temple of the Atom: The AEC and the North Carolina State Research Reactor

Moments in NRC History: The Founding of the NRC

Nuclear Swords into Electric Power Plowshares: The Megatons to Megawatts Program

Waves of Uncertainty: The Demise of the Floating Reactor Concept (Part II)

Floating Nuclear Power Plants: A Technical Solution to a Land-based Problem (Part I)

Before the Browns Ferry Fire: Antiquated Notions That Electricity and Water Didn't Mix

Melting Ice with the Peaceful Atom: The NRC and the End of the Cold War

The Mystery of the Trowel – Solved

The Mystery of the Atomic Energy Commission Trowel — Part I

Channeling da Vinci: The Competition to Create the NRC Seal
The Reactor Safety Study: The Birth, Death and Rebirth of PRA
SATAN's Code: The Early Years of Accident Models
Putting the Axe to the 'Scram' Myth
Why Does The NRC Have an Official Historian?

(Link: https://www.nrc.gov/about-nrc/history.html)

U.S. Naval Academy

Mission of USNA

"To develop Midshipmen morally, mentally and physically and to imbue them with the highest ideals of duty, honor and loyalty in order to graduate leaders who are dedicated to a career of naval service and have potential for future development in mind and character to assume the highest responsibilities of command, citizenship and government."

When the founders of the United States Naval Academy were looking for a suitable location, it was reported that then Secretary of the Navy George Bancroft decided to move the naval school to "the healthy and secluded" location of Annapolis in order to rescue midshipmen from "the temptations and distractions that necessarily connect with a large and populous city." The Philadelphia Naval Asylum School was its predecessor. Four of the original seven faculty members came from Philadelphia. Other small naval schools in New York City, Norfolk, Va., and Boston, Mass. also existed in the early days of the United States.

The United States Navy was born during the American Revolution when the need for a naval force to match the Royal Navy became clear. But during the period immediately following the Revolution, the Continental Navy was demobilized in 1785 by an economy-minded Congress.

The dormancy of American seapower lasted barely a decade when, in 1794, President George Washington persuaded the Congress to authorize a new naval force to combat the growing menace of piracy on the high seas.

The first vessels of the new U.S. Navy were launched in 1797; among them were the United States, the Constellation, and the Constitution. In 1825, President John Quincy Adams urged Congress to establish a Naval Academy "for the formation of scientific and accomplished officers." His proposal, however, was not acted upon until 20 years later.

On September 13, 1842, the American Brig Somers set sail from the Brooklyn Navy Yard on one of the most significant cruises in American naval history. It was a school ship for the training of teenage naval apprentice volunteers who would hopefully be inspired to make the Navy a career.

However, discipline deteriorated on the Somers and it was determined by a court of inquiry aboard ship that Midshipman Philip Spencer and his two chief confederates, Boatswains Mate Samuel Cromwell and Seaman Elisha Small, were guilty of a "determined attempt to commit a mutiny." The three were hanged at the yardarm and the incident cast doubt over the wisdom of

sending midshipmen directly aboard ship to learn by doing. News of the Somers mutiny shocked the country.

Through the efforts of the Secretary of the Navy George Bancroft, the Naval School was established without Congressional funding, at a 10-acre Army post named Fort Severn in Annapolis, Maryland, on October 10, 1845, with a class of 50 midshipmen and seven professors. The curriculum included mathematics and navigation, gunnery and steam, chemistry, English, natural philosophy, and French.

In 1850 the Naval School became the United States Naval Academy. A new curriculum went into effect requiring midshipmen to study at the Academy for four years and to train aboard ships each summer. That format is the basis of a far more advanced and sophisticated curriculum at the Naval Academy today. As the U.S. Navy grew over the years, the Academy expanded. The campus of 10 acres increased to 338. The original student body of 50 midshipmen grew to a brigade size of 4,000. Modern granite buildings replaced the old wooden structures of Fort Severn.

Congress authorized the Naval Academy to begin awarding bachelor of science degrees in 1933. The Academy later replaced a fixed curriculum taken by all midshipmen with the present core curriculum plus 18 major fields of study, a wide variety of elective courses and advanced study and research opportunities.

Since then, the development of the United States Naval Academy has reflected the history of the country. As America has changed culturally and technologically so has the Naval Academy. In just a few decades, the Navy moved from a fleet of sail and steam-powered ships to a high-tech fleet with nuclear-powered submarines and surface ships and supersonic aircraft. The academy has changed, too, giving midshipmen state-of- the-art academic and professional training they need to be effective naval officers in their future careers.

The Naval Academy first accepted women as midshipmen in 1976, when Congress authorized the admission of women to all of the service academies. Women comprise over 20 percent of entering plebes --or freshmen-- and they pursue the same academic and professional training as do their male classmates

(Link: https://www.usna.edu/USNAHistory/index.php)

Food Safety and Inspection Service (FSIS)

The Food Safety and Inspection Service (FSIS) is the public health agency in the U.S. Department of Agriculture responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged.

In 1862, President Abraham Lincoln founded the U.S. Department of Agriculture (USDA), and appointed a chemist, Charles M. Wetherill, to lead USDA's Division of Chemistry, which in 1901 became the Bureau of Chemistry.

In 1883, Harvey W. Wiley, M.D., was appointed chief chemist at USDA. Wiley devoted his career to raising public awareness of problems with adulterated food; developing standards for food processing; and campaigning for the Pure Food and Drugs Act, also known as the "Wiley Act."

Following World War II, the processing industry changed significantly. The rapid growth of the federal highway system and the development of refrigerated trucks allowed meat packers to move out of expensive urban areas. Competition in the meat-packing business led to sophisticated, mechanized plants in less expensive rural areas.

In 1946, the scope of inspection was expanded with the passage of The Agricultural Marketing Act (AMA), which allowed for inspection of exotic and game animals on a fee-for-service basis. The 1946 Act also provided USDA the authority to inspect, certify and identify the class, quality and condition of agricultural products. Grading and quality identification activities were separated from inspection activities and assigned to USDA's Agricultural Marketing Service in 1981. Under the AMA, FSIS also provides a range of voluntary inspection, certification, and identification services

In 1953, the Eisenhower Administration inaugurated sweeping organizational changes at USDA. Scientific bureaus, including the Bureau of Animal Industry and the Bureau of Dairy Industry, were abolished and their functions were transferred to the newly established Agricultural Research Service (ARS).

Health concerns posed by poultry were first addressed in 1926, when USDA began to offer a voluntary inspection and grading service to poultry processors through its Federal Poultry Inspection Service. Following World War II, there was explosive growth in consumer demand for dressed, ready-to-cook, and processed poultry products. In 1957, Congress passed the Poultry Products Inspection Act, which ensured, just like the FMIA did for meat products, that poultry products shipped in interstate commerce are continuously inspected: prior to slaughter, after slaughter, before processing and, if the poultry was imported, at the point of entry into the United States. The law also required that plant facilities be sanitary and that product labels be accurate and truthful.

During the 1950s and 1960s, inspection increasingly focused on wholesomeness and visible contamination. Concerns about animal disease were diminishing. However, industry operations were becoming increasingly complex. Industry was producing more and more different kinds of products, and in greater and greater volume, resulting in increased concerns about mislabeling and economic adulteration.

In 1958, in response to the public's concern about invisible hazards from chemicals added directly or indirectly to foods, the Federal Food, Drug and Cosmetic Act of 1938 was amended with the Food Additive Amendment to ensure the safety of ingredients used in processed foods, including animal drug residues in meat and poultry products.

Also in 1958, after a three-year campaign by animal-advocacy groups, the Humane Methods of Slaughter Act (HMSA) was signed into law. It required that the government only purchase livestock that had been slaughtered humanely, but did not directly require it of industry. Twenty years later, the HMSA of 1978 amended the FMIA by requiring that all meat inspected by FSIS for use as human food be produced from livestock slaughtered by humane methods.

In 1967 and 1968, respectively, the Wholesome Meat Act and the Wholesome Poultry Act amended the FMIA and the PPIA, addressing the new inspection challenges that had arisen from an increasingly complicated market. Under the new laws, states were required to conduct maintain meat and poultry inspection programs "at least equal to" the federal program.

In 1965, ARS' Consumer and Marketing Service was reorganized to include the Meat Inspection Division and Poultry Division, merging federal meat and poultry inspection into one program.

In 1970, Congress passed the Egg Products Inspection Act (EPIA), which provides for the mandatory continuous inspection of the processing of liquid, frozen, and dried egg products. For the next 25 years, ARS' Poultry Division inspected egg products to ensure they were wholesome, otherwise not adulterated, and properly labeled and packaged to protect the health and welfare of consumers.

In 1995, FSIS became responsible for the inspection of pasteurized liquid, frozen, or dried egg products. FDA assumed responsibility for shell egg safety.

In 1971, ARS was reorganized, and in 1972, all of the meat and poultry inspection functions of ARS' Consumer and Marketing Service were transferred to the newly created Animal and Plant Health Service (APHIS).

In 1977, the Food Safety and Quality Service (FSQS) was created to perform meat and poultry grading, as well as inspection activities, instead of APHIS. In 1981, FSQS was reorganized and renamed the Food Safety and Inspection Service (FSIS).

In 1993, an outbreak of E. coli O157:H7 occurred in the Pacific Northwest, causing 400 illnesses and four deaths. The public demanded change for safer ground beef products.

At the time, FSIS inspection was largely organoleptic (relying on sight, touch, and smell), and agency officials and stakeholders called for a more "science-based" meat and poultry inspection system. In response, FSIS stepped up its research on the benefits of Hazard Analysis and Critical Control Points (HACCP), setting the stage for the most significant change in regulatory philosophy in the history of U.S. food inspection.

On July 25, 1996, FSIS issued its landmark rule, Pathogen Reduction/HACCP Systems. The rule focuses on the prevention and reduction of microbial pathogens on raw products that can cause illness.

HACCP clarifies the respective roles of government and industry. Industry is accountable for producing safe food. Government is responsible for setting appropriate food safety standards, maintaining vigorous inspection oversight to ensure those standards are met, and maintaining a strong regulatory enforcement program to deal with noncompliance.

HACCP was implemented in all FSIS- and state-inspected meat and poultry slaughter and processing establishments across the nation, between January 1997 and January 2000. The Centers for Disease Control and Prevention have recognized HACCP as an important factor in the overall decline in bacterial food borne illnesses since 1996.

Since the implementation of HACCP, FSIS has intensified efforts to combat food borne pathogens; for example, testing meat and poultry products for Listeria monocytogenes, implementing stricter Salmonella and new Campylobacter performance standards for poultry products, and declaring that six additional serogroups of pathogenic E. coli (in addition to E. coli O157:H7) are adulterants in non-intact raw beef.

FSIS works with federal, state and local food safety partners to address emerging pathogens, to detect food borne hazards, and to prevent food borne illness.

(Link: https://www.fsis.usda.gov/wps/portal/informational/aboutfsis/history)

The Peace Corps

For more than five decades, Peace Corps Volunteers in 140 countries have demonstrated ingenuity, creativity, and grit to solve critical challenges alongside community leaders. Through the years, Peace Corps Volunteers have been connected by their passion for service and love for their host countries. The transformative impact of the Peace Corps on the communities we serve and the Volunteers themselves can be measured in many ways.

One of the signature achievements of President John F. Kennedy was creating the Peace Corps, a new agency and a new opportunity for Americans to serve their country and their world. The creation of the Peace Corps dates back to an unexpected moment and impromptu speech more than 55 years ago.

After a day of campaigning for the presidency, Senator John F. Kennedy arrived at the University of Michigan in Ann Arbor on October 14, 1960, at 2:00 a.m., to get some sleep, not to propose the establishment of an international volunteer organization. Members of the press had retired for the night, believing that nothing interesting would happen.

But 10,000 students at the university were waiting to hear the presidential candidate speak, and it was there on the steps of the Michigan Union that a bold new experiment in public service was launched. The assembled students heard the future president issue a challenge: How many of them, he asked, would be willing to serve their country and the cause of peace by living and working in the developing world?

The reaction was both swift and enthusiastic, and since 1961, over 220,000 Americans have responded to this enduring challenge. And since then, the Peace Corps has demonstrated how the power of an idea can capture the imagination of an entire nation.

Following up on the idea he launched at the University of Michigan, President Kennedy signed an executive order establishing the Peace Corps on March 1, 1961. Three days later, R. Sargent Shriver became its first Director. Deployment was rapid: Volunteers began serving in five countries in 1961. In just under six years, Director Shriver developed programs in 55 countries with more than 14,500 Volunteers.

Full text of Kennedy's remarks

"I want to express my thanks to you, as a graduate of the Michigan of the East, Harvard University.

"I come here tonight delighted to have the opportunity to say one or two words about this campaign that is coming into the last three weeks.

"I think in many ways it is the most important campaign since 1933, mostly because of the problems which press upon the United States, and the opportunities which will be presented to us in the 1960s. The opportunity must be seized, through the judgment of the President, and the vigor of the executive, and the cooperation of the Congress. Through these I think we can make the greatest possible difference.

"How many of you who are going to be doctors, are willing to spend your days in Ghana? Technicians or engineers, how many of you are willing to work in the Foreign Service and spend your lives traveling around the world? On your willingness to do that, not merely to serve one

year or two years in the service, but on your willingness to contribute part of your life to this country, I think will depend the answer whether a free society can compete. I think it can! And I think Americans are willing to contribute. But the effort must be far greater than we have ever made in the past.

"Therefore, I am delighted to come to Michigan, to this university, because unless we have those resources in this school, unless you comprehend the nature of what is being asked of you, this country can't possibly move through the next 10 years in a period of relative strength.

"So I come here tonight to go to bed! But I also come here tonight to ask you to join in the effort...

"This university...this is the longest short speech I've ever made...therefore, I'll finish it! Let me say in conclusion, this University is not maintained by its alumni, or by the state, merely to help its graduates have an economic advantage in the life struggle. There is certainly a greater purpose, and I'm sure you recognize it. Therefore, I do not apologize for asking for your support in this campaign. I come here tonight asking your support for this country over the next decade.

"Thank you."

(Link: https://www.peacecorps.gov/about/history/)

Department of State

Since its creation in 1789, the Department of State has carried out a series of reorganizations and has created new offices and bureaus to deal with new diplomatic challenges. The Department of State has grown significantly over the years. The first Secretary of State, Thomas Jefferson, oversaw a small staff of one chief clerk, three other clerks, a translator, and a messenger and only maintained two diplomatic posts, in London and Paris, as well as 10 consular posts.

Given the overwhelming strategic and military advantages of Great Britain, the United States could gain independence only if it attracted the support of Britain's enemies, France and Spain. In November 1775, Congress established the Committee of Secret Correspondence to "correspond with friends" and prospective supporters abroad and to send commissioners to other key countries. Silas Deane was sent to France in March 1776, and Arthur Lee became a "confidential correspondent" in London.

American commissioners during the Revolutionary period were authorized to appoint commercial agents to supply the American war effort, but the committees of the Continental Congress also appointed some commercial agents directly. The resulting confusion caused Franklin to complain, "Commercial agents . . . and the captains are continually writing for my opinion or orders or leave to do this or that, by which much time is lost to them and much of mine is taken up to little purpose from my ignorance."

In October 1776, Franklin sailed to France to lead the diplomatic effort. His patient diplomacy combined with the American victory at the Battle of Saratoga resulted in a Treaty of Alliance with France in February 1778. Benjamin Franklin officially became the first American Minister to serve overseas when, on March 23, 1779, he presented his credentials to King Louis XVI of France.

In June 1781, Congress named a Peace Commission, including Franklin, John Adams, and John Jay to negotiate an end to the war. The commissioners reached agreement with the British on November 30, 1782.

Washington and Jefferson lobbied Congress for a large enough appropriation to support a limited number of overseas missions, in a style comparable to those of other nations. Jefferson drew a distinction between a diplomatic service, conducting political relations with foreign countries, and a consular service, dealing with commercial matters and the needs of American citizens abroad. By 1791, diplomatic missions had been established in five European countries: England, Spain, France, Holland, and Portugal.

Ministers concentrated on two important responsibilities: reporting on significant activities in their countries of residence and executing formal diplomatic instructions transmitted to them from the Department of State.

By 1792, 16 consulates had been created, most of them in Europe. Jefferson saw the consulates as a valuable source of intelligence, and he sent a circular letter to consuls asking them to report to him regularly "such political and commercial intelligence as you may think interesting to the United States." He mentioned particularly news of American ships and also "information of all military preparations and other indications of war, which may take place in your ports."

Consuls did not receive salaries or allowances for expenses, and they lived off the fees they charged for their services. Because their income was so uncertain, consuls often served for many

years in the same location and paid little attention to their official duties. One consul in La Guaira, Venezuela, was dismissed because "not a single communication" had been received from him in seven years.

The precarious nature of U.S. consuls overseas was a concern to Jefferson. He feared that the few Americans overseas who were eligible to serve as consuls might be in debt or "…young, ephemeral characters in commerce without substance or conduct." Even worse, if appointed, they "…might disgrace the consular office, without protecting our commerce." Congress amended the law requiring consuls and vice-consuls to be American citizens and, when necessary, reputable foreign citizens were appointed as vice-consuls.

The triumph of Union forces in 1865 finally ended the dispute over the relative merits of national authority and states' rights. The nation emerged from the Civil War more powerful and secure than at any time in its history. Because of the balance of power in Europe, the United States would remain largely immune from international dangers for the next 50 years.

World War I (1914–1918) and World War II (1939–1945) brought vastly increased global responsibilities to the United States as it emerged as a preeminent power. New challenges after the end of the Cold War and the fall of the Soviet Union, included:

- the newly independent states,
- the global economy,
- terrorism, and
- the security of the American overseas presence.

The Department of State that emerged from World War II better prepared to play a leading role in the foreign policy process and to participate fully in the difficult tasks ahead. In July 1945, Secretary James F. Byrnes recognized the extent of the postwar challenge. "The supreme task of statesmanship in the world over is to help them understand that they can have peace and freedom only if they tolerate and respect the rights of others to opinions, feelings, and way of life which they do not and cannot share."

To address these changing global circumstances, the number of domestic and overseas employees (not counting local employees) grew to:

- 1,228 in 1900,
- 1,968 in 1940,
- 13,294 in 1960,
- and 15,751 in the year 2000.

The number of diplomatic posts increased from 41 in 1900 to 168 in 2004 and continues to grow.

(Link: https://history.state.gov/departmenthistory)

"Milestones in the History of U.S. Foreign Relations" provides a general overview of the history of U.S. engagement with the world through short essays on important moments, or milestones, in

the diplomatic history of the United States. The basic objective of these essays is to provide a clear, accurate, narrative account of the events being discussed, with a brief discussion of each event's significance for U.S. foreign policy and diplomatic history. The publication is divided into 19 chapters covering time periods from 1750 until 2000, with brief introductions providing context for each period.

The essays were drafted for the Office of the Historian website by many historians over many years, and we continue to revise and expand the existing periods. Most recently, the essays covering the Kennedy and Johnson (1961–68), Nixon and Ford (1969–76), Carter (1977–80), Reagan (1981–88), Bush (1989–92), and Clinton (1993–2000) administrations were revised and expanded. These same essays were also enhanced with "tags," or lists of the key people, places, and topics in the essay. The tags appear as links in the right sidebar of the essay and facilitate discovery of other essays and resources, including volumes from the Foreign Relations of the United States series, on these subjects. The "tags" feature is still in progress, and over time the Office will extend the tags to all of the essays. See https://history.state.gov/milestones

Lawrence Livermore National Laboratory

For more than half a century, Lawrence Livermore National Laboratory has applied cutting-edge science and technology to enhance national security.

The Laboratory was established in 1952 at the height of the Cold War to meet urgent national security needs by advancing nuclear weapons science and technology. Renowned physicists E.O. Lawrence and Edward Teller argued for the creation of a second laboratory to augment the efforts of the laboratory at Los Alamos.

At his laboratory on the Berkeley campus of the University of California, Lawrence had created the model of how large-scale science should be pursued -- through multidisciplinary team efforts. Activities began at Livermore under the aegis of the University of California with a commitment by its first director, Herbert York, to follow Lawrence's team-science approach and be a "new ideas" laboratory.

Livermore made its first major breakthrough with the design of a thermonuclear warhead for missiles that could be launched from highly survivable submarines. The Laboratory went on to develop the first high-yield warheads compact enough that several could be carried on each ballistic missile.

Programs in fusion energy and advanced computations also were part of the Laboratory's initial research portfolio. Livermore acquired one of the first UNIVAC computers as well as "first editions" of the increasingly more powerful and faster computers that followed.

Environmental programs begun in the 1960s have led to novel groundwater remediation technologies in use at Superfund sites, models that are contributing to understanding the human impact on global climate change, and the establishment of the National Atmospheric Release Advisory Capability (NARAC) at Livermore. NARAC contributes to emergency response decisions after release of radioactivity or toxic materials, such as the Three Mile Island and Chernobyl events.

In the 1970s Livermore launched its laser research program and has been at the forefront of laser science and technology ever since. A sequence of ever-larger lasers to explore inertial confinement fusion is culminating in the National Ignition Facility (NIF).

The energy crisis in the 1970s invigorated energy research programs at the Laboratory, which are part of the government-industry partnership to develop long-term reliable, affordable, clean sources of energy.

In the 1980s Livermore researchers pioneered the use of multiple parallel processing for scientific computing. For decades, the need for ever more powerful simulations for nuclear weapons design guided industry's development of supercomputers. Livermore frequently has been home to "serial number one" of new computers and has helped industry make prototype machines ready for a wider range of users.

Multiple parallel processing is now central to the Advanced Simulation and Computing (ASC) Program, which is a key component of efforts to maintain the nation's nuclear weapons stockpile without nuclear testing. "Terascale" and "petascale" computing is also offering unprecedented opportunities for scientific discovery.

In the 1990s after the United States halted nuclear testing in 1992, the Laboratory helped DOE define the Stockpile Stewardship Program, which is ensuring the safety, security, and reliability of the nation's nuclear deterrent without nuclear testing. Livermore is a key participant in the program and home to unique capabilities for the effort, such as NIF and several ASC supercomputers.

To address growing concerns about nuclear proliferation, Livermore established a program in nonproliferation and international security. The Laboratory's analytical and technology development capabilities were focused on the threat posed by the acquisition or use of weapons of mass destruction by terrorists or nation states.

Livermore continued to advance and apply science and technology to ensure national security within the global context. The Laboratory successfully completed a life-extension program for the nation's most modern ICBM warhead, the W87, that will enable it to remain in the U.S. strategic arsenal well into the 21st century.

With the terrorist attacks of 2001, Laboratory programs in counterterrorism and counter proliferation gained impetus, and the development of new technologies for biodetection, chemical and explosives detection, and nuclear detection was ast-tracked.

The Laboratory also initiated major efforts in energy security. This work is aimed at the development of sustainable energy resources and technologies while reducing their environmental impacts and increasing our understanding of climate change.

Biotechnology developments at Livermore and Los Alamos, such as chromosome biomarkers and high-speed cell sorters, enabled the launch of the Human Genome Initiative in 1987. This multi-laboratory initiative grew to become an international endeavor that completed sequencing the human genome in 2000. Livermore's bioscience programs are now contributing to national efforts to combat the threat of bioterrorism.

(Link: https://www.llnl.gov/about/history)

The Department of Interior

In 1789 Congress created three Executive Departments: Foreign Affairs (later in the same year renamed State), Treasury, and War. It also provided for an Attorney General and a Postmaster General. Domestic matters were apportioned by Congress among these departments. The idea of setting up a separate department to handle domestic matters was put forward on numerous occasions. It wasn't until March 3, 1849, the last day of the 30th Congress that a bill was passed to create the Department of the Interior to take charge of the Nation's internal affairs:

The Interior Department had a wide range of responsibilities entrusted to it: the construction of the national capital's water system, the colonization of freed slaves in Haiti, exploration of western wilderness, oversight of the District of Columbia jail, regulation of territorial governments, management of hospitals and universities, management of public parks, and the basic responsibilities for Indians, public lands, patents, and pensions. In one way or another all of these had to do with the internal development of the Nation or the welfare of its people.

Some significant dates:

1849 Creation of the Home Department consolidating the General Land Office (Department of the Treasury), the Patent Office (Department of State), the Indian Affairs Office (War Department) and the military pension offices (War and Navy Departments). Subsequently, Interior functions expand to include the census, regulation of territorial governments, exploration of the western wilderness, and management of the D.C. jail and water system.

1850-1857 Interior's Mexican Boundary Commission establishes the international boundary with Mexico.

1856-1873 Interior's Pacific Wagon Road Office improved the historic western emigrant routes.

1869 Interior began its geological survey of the western Territories with the Hayden expedition. The Bureau of Education is placed under Interior (later transferred to the Department of Health, Education and Welfare).

1872 Congress establishes Yellowstone as the first National Park.

1873 Congress transferred territorial oversight from the Secretary of State to the Secretary of the Interior.

1879 Creation of the U.S. Geological Survey.

1884 Interior's Bureau of Labor is established (becomes the Department of Labor in 1888).

1887-1889 The Interstate Commerce Commission is established in Interior. The Dawes Act authorizes allotments to Indians.

1902 The Bureau of Reclamation is established to construct dams and aqueducts in the west.

1903 President Theodore Roosevelt establishes the first National Wildlife Refuge at Pelican Island, Florida. The Census Bureau is transferred to the Department of Commerce.

1910 The Bureau of Mines is created to promote mine safety and minerals technology.

Stephen T. Mather, National Park Service's First Director.1916 President Wilson signed legislation creating The National Park Service.

1920 The Mineral Leasing Act establishes the government's right to rental payments and royalties on oil, gas, and minerals production.

1925 The Patent Office is transferred to the Department of Commerce.

1930 The Bureau of Pensions is transferred to the Veterans Administration.

1934 The Taylor Grazing Act is enacted to regulate economic uses of public lands. The first Migratory Bird Hunting Stamp is issued. The Indian Reorganization Act abolishes the allotment system established in 1887, forms tribal governments, and affirms the Secretary's trust responsibilities. Oversight of Alaska, Hawaii, the Virgin Islands, and Puerto Rico is transferred to Interior.

1935 The Bureau of Reclamation completes construction of Hoover Dam.

1940 The U.S. Fish and Wildlife Service is created from the Bureau of Fisheries and the Bureau of Biological Survey.

1946 Interior's General Land Office and Grazing Service are merged into the Bureau of Land Management.

1950-1951 Interior assumes jurisdiction over Guam, American Samoa, and the Trust Territory of the Pacific Islands.

1977 The is established to oversee state regulation of strip coal mining and repair of environmental damage.

1980 The Alaska National Interest Lands Conservation Act is enacted adding 47 million acres to the National Park System and 54 acres to the National Wildlife Refuge System.

1982 The Minerals Management Service (now known as the Bureau of Ocean Energy Management, Regulation, and Enforcement) is established to facilitate mineral revenue collection and manage the Outer Continental Shelf offshore lands.

1993 The President convened the Northwest Forest Plan Summit and released the "Forest Plan for a Sustainable Economy and Sustainable Environment."

1996 Interior science and technology functions are consolidated in the U.S. Geological Survey.

2001 Gale A. Norton is nominated the first woman to serve as Secretary of the Interior.

2010 Secretary Ken Salazar signs order 3302, renaming the Minerals Management Service as the Bureau of Ocean Energy Management, Regulation, and Enforcement.

(Link: https://www.doi.gov/whoweare/history/)

The Army Corps of Engineers

George Washington appointed the first engineer officers of the Army on June 16, 1775, during the American Revolution, and engineers have served in combat in all subsequent American wars. The Army established the Corps of Engineers as a separate, permanent branch on March 16, 1802, and gave the engineers responsibility for founding and operating the U.S. Military Academy at West Point.

Since then the U.S. Army Corps of Engineers has responded to changing defense requirements and played an integral part in the development of the country. Throughout the 19th century, the Corps built coastal fortifications, surveyed roads and canals, eliminated navigational hazards, explored and mapped the Western frontier, and constructed buildings and monuments in the Nation's capital.

From the beginning, many politicians wanted the Corps to contribute to both military construction and works "of a civil nature." Throughout the 19th century, the Corps supervised the construction of coastal fortifications and mapped much of the American West with the Corps of Topographical Engineers, which enjoyed a separate existence for 25 years (1838-1863). The Corps of Engineers also constructed lighthouses, helped develop jetties and piers for harbors, and carefully mapped the navigation channels.

In the 20th century, the Corps became the lead federal flood control agency and significantly expanded its civil works activities, becoming among other things a major provider of hydroelectric energy and the country's leading provider of recreation. Its role in responding to natural disasters also grew dramatically.

Assigned the military construction mission in 1941, the Corps built facilities at home and abroad to support the U.S. Army and Air Force. During the Cold War, Army engineers managed construction programs for America's allies, including a massive effort in Saudi Arabia. In addition, the Corps of Engineers also completed large construction programs for federal agencies such as NASA and the postal service.. The Corps also maintains a rigorous research and development program in support of its water resources, construction, and military activities.

In the late 1960s, the Corps became a leading environmental preservation and restoration agency. It now carries out natural and cultural resource management programs at its water resources projects and regulates activities in the Nation's wetlands. In addition, the Corps assists the military services in environmental management and restoration at former and current military installations.

When the Cold War ended, the Corps was poised to support the Army and the Nation in the new era. Army engineers supported 9/11 recovery efforts and currently play an important international role in the rapidly evolving Global War on Terrorism, including reconstruction in Iraq and Afghanistan. The U.S. Army Corps of Engineers stands ready to support the country's military and water resources needs in the 21st century as it has done during its more than two centuries of service.

At the end of the Revolutionary War, the engineers mustered out of service. In 1794, Congress organized a Corps of Artillerists and Engineers, but it was not until 1802 that it reestablished a separate Corps of Engineers. The Corps' continuous existence dates from this year. At the same time, Congress established a new military academy at West Point, New York. Until 1866, the superintendent of the academy was always an engineer officer. The first superintendent, Jonathan Williams, also became the chief engineer of the Corps. During the first half of the 19th century, West Point was the major and for a while, the only engineering school in the country.

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Once reestablished, the Corps of Engineers began constructing and repairing fortifications, first in Norfolk and then in New Orleans. The Corps' fortifications assignments proliferated during the 5 years of diplomatic tension that preceded the War of 1812. The chief engineer, Colonel Jonathan Williams, substantially expanded the system of fortifications protecting New York Harbor. The works, which Williams and his successor Joseph Swift erected around that harbor including the 11-pointed fort that now serves as the base of the Statute of Liberty, convinced the commanders of the British navy to avoid attacking that strategic location during the War of 1812.

Responding to the success of its fortifications during the War of 1812, the United States soon developed an expanded system of modern, casemated, masonry fortifications to provide the first line of land defense against the threat of attack from European powers.

While Congress reduced the size of the country's infantry and artillery forces after the war, it retained the increased number of officers that it had authorized for the Corps of Engineers in 1812. Pleas from several secretaries of war for more engineers to work on fortifications led Congress to double the size of the Corps again in 1838. The fortifications, which the Army engineers built on the Atlantic and Gulf coasts, and after 1848 on the Pacific coast, securely defended the nation until the second half of the 19th century when the development of rifled artillery ended the earlier impregnability of the massive structures

Although its work on fortifications was important, perhaps the greatest legacy the early Corps of Engineers bestowed to future generations was its work on canals, rivers, and roads. America was a young nation, and rivers were its paths of commerce. They provided routes from western farms to eastern markets and for settlers seeking new homes beyond the Appalachian frontier. The rivers beckoned and enticed, but then could treacherously destroy the dreams of unwary travelers and shippers whose boats were punctured by snags and sawyers or stranded by sandbars. Both commercial development and national defense, as shown during the War of 1812, required more reliable transportation arteries. Out of those unruly streams, engineers carved navigation passages and harbors for a growing nation.

Still, federal assistance for "internal improvements" evolved slowly and haphazardly—the product of contentious congressional factions and an executive branch generally concerned with avoiding unconstitutional federal intrusions into state affairs. In 1824, however, the Supreme Court ruled in Gibbons v. Ogden that federal authority covered interstate commerce including riverine navigation. Shortly thereafter, Congress passed two important laws that, together, marked the beginning of the Corps' continuous involvement in civil works. The General Survey Act authorized the president to have surveys made of routes for roads and canals "of national importance, in a commercial or military point of view, or necessary for the transportation of public mail." The president assigned responsibility for the surveys to the Corps of Engineers. The second act, passed a month later, appropriated $75,000 to improve navigation on the Ohio and Mississippi rivers by removing sandbars, snags, and other obstacles. Subsequently, the act was amended to include other rivers such as the Missouri. This work, too, was given to the Corps of Engineers—the only formally trained body of engineers in the new republic and, as part of the nation's small army, available to serve the wishes of Congress and the executive branch.

The work was important. At first a Board of Internal Improvements, headed by an engineer officer, planned surveys and the development of canals, roads, and railroads. The board, the Engineer Department, and the War Department, agreed that national defense and inland transportation were complementary and interdependent. This idea governed earliest activities. In some cases various modes of transportation were considered in relationship to each other, thus, an 1826 investigation considered whether it was practical to unite the Kanawha River with the James and Roanoke rivers by canals, railroads, or both. By the mid 1830s, however, local political considerations outweighed any overall plan in determining which projects received attention.

Much of the work was done by the topographical engineers or "Topogs," who reported to a separate Topographical Bureau in the Engineer Department. In 1838, the topographical engineers became a separate corps and remained that way until 1863 when they were reunited with the Corps of Engineers. As surveyors, explorers, cartographers, and construction managers, the topographical engineers helped open the nation's interior to commercial development and settlement.

Congress expanded the Army engineers' workload in 1826. New legislation authorized the president to have river surveys made to clean out and deepen selected waterways and to make various other river and harbor improvements. Although the 1824 act to improve the Mississippi and Ohio rivers is often called the first rivers and harbors legislation, the 1826 act was the first to combine authorizations for both surveys and projects, thereby establishing a pattern that continues to the present day.

An early project that reflected engineer innovation was the removal of sandbars in the Ohio River. By September 1825, topographical engineer Major Stephen H. Long, working on the Ohio River just below Henderson, Kentucky, had constructed a wing dam consisting of two rows of more than 600 wooden piles, driven to a depth of 16 feet. He experimented with the proper angle, width, and length to achieve the greatest velocity of current. Theory and empirical data agreed that the increased velocity should reduce the sandbar and increase the height of the river. Long finally figured out an angle and length for the dam that seemed to work, and the dam served as the prototype for many others along the Ohio River. It required no significant repair until 1872.

Long, however, was not completely satisfied with his work. He realized that the dam would not prevent the formation of sandbars. From year to year, the Ohio would continue to push and carry sediment downstream, forming bars at many different points, including the dams themselves. Long's misgivings led to further innovation. He convinced Colonel Alexander Macomb, the chief engineer, to sponsor a contest to find a machine that could eliminate navigation obstructions. The winner would receive a prize of $1,000 and, potentially of more value, a contract to open up the Ohio River. However, the winner, John Bruce, designed a boat of limited use; moreover, he argued with Macomb over the terms of the contract. Long suggested someone to replace Bruce. He was Henry M. Shreve, a man known for navigation skill on the Mississippi and Ohio rivers and for his pioneering efforts to bring trade and commerce to the Mississippi Valley.

Shreve cared little for hydraulic theory. His attitude was to design whatever it took to get the job done, and he constructed a revolutionary new steam-powered snag boat. Put into service in 1829, it became the model for steam snag boats on the Ohio, Mississippi, and elsewhere. Shreve's boat ran full steam into the snags, jarring them loose. The limbs were then hoisted and broken apart on the vessel's deck. "Uncle Sam's tooth pullers," Shreve's snag boats came to be called. They were unlike anything known elsewhere in the world, and their impact was dramatic. Insurance and shipping rates dropped, and the number of steamboats on the Mississippi and Ohio rivers increased significantly.

The innovative work to clear the nation's rivers of navigation obstacles continued after the Civil War. In 1871, engineer Major Quincy A. Gillmore chartered a steamer and converted it for suction dredging. Named the Henry Burden, the converted boat was the Corps' first hydraulic dredge, and one of the first in the country. Within 3 years, the government purchased another propeller-driven steamer, the Woodbury, and converted it into a suction dredge to deepen the

Cape Fear River below Wilmington, North Carolina. More than half a dozen hydraulic hopper dredges were constructed for the Corps just before the turn of the century.

After the Civil War, a special Army Engineer Board concluded that a system of locks and dams on the Ohio River was preferable either to continued dependence on wing dams and dredging or to the construction of a system of canals to by-pass the Ohio's obstacles. Major William E. Merrill, who was in charge of Ohio River improvements, needed to develop a system of river regulation dams that would easily allow passage of coal barges. He concluded that the wicket dam design developed by Jacques Chanoine in France in 1852 would be best, and in 1874 he formally proposed that a series of movable dams, employing Chanoine wickets, be constructed on the Ohio. After Congress approved Merrill's plan in 1877, the Corps began constructing the Davis Island project, just south of Pittsburgh. Completed in 7 years, the 110 by 600-foot lock and 1,223-foot dam were the largest in the world at that time. The Davis Island Lock also was one of the first in the country to use concrete in place of stone masonry. The Corps' success at Davis Island led Congress to authorize extension of the project down the Ohio. Later, the Corps increased the initial 6-foot channel to 9 feet. The project was completed in 1929 at a cost of about $125 million.

Throughout the 19th century, engineer officers were involved in the construction, maintenance, and rehabilitation of canals and river navigation features. They surveyed the Chesapeake and Ohio and the Muscle Shoals canal routes in the 1820s. Several prominent Army engineers launched their careers at the revived Muscle Shoals after the Civil War. These included Major William Rice King and Lieutenants William Louis Marshall later chief of engineers, and George W. Goethals. Goethals designed the Riverton Lock with a low-water lift of 26 feet, the largest yet attempted in the United States when the Muscle Shoals Canal opened in 1911. Successes like these assured that engineers like Goethals would be called on again, as he was for the Panama Canal.

The Corps' canal-building efforts continued in the 20th century. After the federal government purchased the Chesapeake and Delaware Canal in 1919, the Corps' Wilmington (Delaware) District directed a reconstruction effort to deepen the channel to 12 feet and add several bridges. Traffic soon increased, and as an immediate result, demands were made to enlarge it. The C&D Ship Canal became part of an intercoastal waterway envisioned to connect existing bodies of water in a line roughly paralleling the coast from Boston, south to Key West, and then west to the Rio Grande. Today, the Corps retains responsibility for this canal and the entire intracoastal waterway of which it is a part.

Aside from the actual construction and maintenance of canals, locks, and other navigation features, Army engineers performed important survey work. Two important surveys were of the Great Lakes and the Mississippi Delta. The necessity for a good survey of the Great Lakes had long been recognized, for the uncharted lakes posed significant navigation hazards. Army topographers had surveyed some of the Great Lakes as early as 1823, but Congress did not

appropriate funds for a systematic survey until 1841. Captain William G. Williams, who had been the general superintendent of harbor improvements on Lake Erie, headed the survey.

Despite the modest and belated support given to the Great Lakes survey, the subsequent years revealed a rare congressional consensus that the work was, indeed, important. From 1841 to 1860, Congress appropriated a total of $640,000 for the survey; funds were provided in 10 of those 20 years. The survey itself was daunting. Some 6,000 miles of shoreline needed to be surveyed. The surveyors determined latitude and longitude; measured the discharge of rivers into the Great Lakes; surveyed rivers, narrows, and shoals; develop charts and maps; and marked points of danger. A special iron-hulled steamer was constructed for the work. The Corps continued this survey work until 1970, when many of the survey office's functions were transferred to the newly established National Oceanic and Atmospheric Administration. The Detroit District of the Corps of Engineers assumed the responsibility for forecasting lake levels.

The scientific conclusions of the Mississippi Delta survey gave it an importance in the history of hydraulic engineering out of proportion to the funds invested in it. In September 1850, responding to the pleas of southern congressmen seeking federal assistance to fight the periodic disastrous flooding that struck New Orleans and other lower Mississippi River communities, Congress appropriated $50,000 for a topographical and hydrographical survey of the Mississippi Delta, including a study of the best means of securing a 20-foot navigation channel at the Mississippi's mouth.

Topographical engineer Captain Andrew A. Humphreys initiated the survey and maintained overall supervision of the project, but beginning in 1857 he received the assistance of a young engineer, Second Lieutenant Henry L. Abbot. Abbot's field work proved so indispensable that when the final report was published in 1861, Humphreys named Abbot as its coauthor. Officially called the Report upon the Physics and Hydraulics of the Mississippi River, the survey is often simply referred to as the Humphreys Abbot report.

The two Army engineers submitted a report full of new details about the lower Mississippi Basin. From just south of the junction of the Mississippi and Ohio rivers to where the Mississippi empties into the Gulf of Mexico, they obtained data on river flow, channel cross sections, and general topographical and geological features. After examining some 15 different formulas and finding each lacking, they began to develop their own formula to measure the flow of water in rivers, one that subsequently also proved faulty. Most important, it failed to take into account the degree of roughness of the slopes of a river channel. Still, their work stimulated other hydraulic engineers, and further research led to important theoretical discoveries. The report obtained the respect of engineers around the world.

The conclusions of Humphreys and Abbot decidedly influenced the development of river engineering and the evolution of the Corps of Engineers. The authors believed that "levees only" could control flooding along the lower Mississippi. Neither costly reservoirs nor cutoffs were

needed. The Corps of Engineers accepted these conclusions for nearly 60 years, not just for the lower Mississippi but for other large rivers as well. The "levees only" policy profoundly affected the manner in which the United States developed its water resources. Indeed, the influence of the Humphreys Abbot report extended past World War II, despite the fact that by then Congress had authorized hundreds of reservoir projects.

In the 19th century the Corps of Engineers also constructed roads. The most famous project was the Cumberland or National Road that was constructed between 1811 and 1841. The road extended from Cumberland, Maryland, across the Appalachian ridges of western Pennsylvania to Wheeling and then across the midsections of Ohio and Indiana to Vandalia, Illinois. The Corps' involvement on the road occurred in large part because civilian superintendents failed. Congress authorized the Treasury Department to build the road in 1806, but in the following years the Treasury Department was accused of inefficient, costly, and unsatisfactory progress on the project. In 1825, President John Quincy Adams turned the responsibility over to the War Department.

In constructing the National Road, the Corps applied the techniques developed in England by John McAdam, and it engaged in some innovative bridge building. At Brownsville, Pennsylvania, Captain Richard Delafield, a future chief engineer, built the first bridge in the United States with a cast-iron superstructure, an 80-foot span that remains in use today. By 1840 engineer officers had overseen construction of 268 miles of macadamized surface with bridges across all but the widest rivers.

Engineer officers also superintended railroad work after 1824. They surveyed railroad routes and, once construction commenced, the War Department loaned engineers to various railroad companies. Thus, with the permission of the chief engineer, Captain William G. McNeill entered the service of the Baltimore and Ohio Railroad in 1828 to supervise the surveying and construction of a railroad line. In October 1829, the Baltimore and Ohio Railroad began laying track under the supervision of Lieutenant George W. Whistler. By 1830 many officers were being granted furloughs to work on railroads, in either construction or surveying activities. Finally, in 1838, Congress passed legislation that prohibited granting leave to Army officers to allow them temporary employment with private companies.

In the 1850s', westward expansion generated interest in a rail link from the Mississippi to the Pacific coast, and topographical engineer officers surveyed and evaluated four alternative routes for the road, gathering a great deal of scientific information at the same time. The Corps of Engineers sponsored two more surveys after the Civil War in an effort to gather knowledge about the American West. One survey, led by a civilian, Clarence King, explored the 40th parallel route across the "Great Basin" that extended from the eastern slope of the Sierra Nevada to the western fringes of Wyoming and Colorado, while Major George M. Wheeler led another scientific expedition into the Southwest. Both expeditions produced a wealth of data on the natural history of the West.

U.S. Army engineers played significant roles in the Mexican and Civil Wars, providing both mapping and construction services and troop leaders in theaters of operations while largely suspending work on navigational improvements. Engineers of all ranks gained renown for their military efforts during their service in Mexico in 1846-48. Chief Engineer Joseph Totten directed the successful siege of the port city of Veracruz, from which General Winfield Scott launched his decisive assault on the interior of the country. Captain William Williams, who had directed the Great Lakes survey, served as chief topographical engineer for General Zachary Taylor until his death at the battle of Monterey.

During the Civil War, Army engineers built ponton and railroad bridges, constructed forts and batteries, demolished enemy supply lines, and conducted siege warfare. In December 1862 they laid six pontoon bridges across the Rappahannock River, under devastating fire from Confederate sharpshooters, in support of the Union attack on Fredericksburg, Virginia. The 2,170-foot pontoon bridge, which Union engineer troops laid across the James River in June 1864 as the Army of the Potomac approached Petersburg, Virginia, was the longest floating bridge erected before World War II. Drawn largely from the top of their West Point classes, the engineers in the Corps before the Civil War included many excellent military strategists who rose to leadership roles during the war. Among them were Union generals George McClellan, Henry Halleck, George Meade, and Confederate generals Robert E. Lee, Joseph Johnston, and P. G. T. Beauregard.

In the early 19th century, the Corps constructed many projects in support of the Department of the Treasury. For instance, the Corps built three customs houses and more than half a dozen marine hospitals (to treat merchant seamen). These hospitals were built at such places as Napoleon, Arkansas; Paducah and Louisville, Kentucky; and Natchez, Mississippi. Also for the Department of Treasury, the Corps built a number of lighthouses. Between 1831 and 1851, engineer officers were regularly engaged in this duty, which often involved extraordinarily difficult and perilous construction challenges. In 1852 Congress established a Lighthouse Board, which included engineer officers, to superintend lighthouse construction. Eventually, Corps officers supervised the construction of dozens of lighthouses along the nation's coasts, including the Great Lakes.

The Corps also contributed substantially to the construction of many public buildings and monuments in Washington, D.C. This work began as early as 1822, when Isaac Roberdeau, a topographical engineer, supervised installation of cast iron pipes to bring spring water to the White House and surrounding executive offices. In 1853 responsibility for constructing permanent water supply facilities for Washington fell upon Lieutenant Montgomery C. Meigs. His project included two bridges later to carry traffic as well as water pipes over Cabin John and Rock creeks. Both bridges were engineering feats in their day. The Cabin John Bridge, built between 1857 and 1864, remained the world's longest masonry arch for more than 40 years and is still in use.

In 1867 Congress gave control of public parks and monuments to the Office of Public Buildings and Grounds under the chief of engineers and in 1878 replaced Washington's elected government with a three-man commission. An Army engineer holding the title of engineer commissioner for the District of Columbia served on that board and had responsibility for the city's physical plant until Congress approved the district's current home rule charter in 1967. During the last half of the 19th century, the Corps improved navigation on the Potomac River and its tributaries; expanded the local water supply system; completed the Washington Monument; helped design and construct numerous structures including the Executive Office Building, the Lincoln Memorial, the Library of Congress, and the Government Printing Office; undertook swamp reclamation which resulted in the Tidal Basin; and developed Rock Creek Park as a major urban recreation area.

Despite continuing congressional reservations about federal involvement, the Corps became involved in flood control after the Civil War. Particularly on large rivers such as the Mississippi, floods impaired commerce, destroyed property, and cost lives. In 1879 Congress created the Mississippi River Commission, composed of seven people: three from the Corps including the commission president, three from civilian life including at least two civil engineers, and one from the U.S. Coast and Geodetic Survey. Congress created the commission to insure that the best advice from both the military and civilian communities was heard on the subject of improving the Mississippi River for navigation and flood control.

After much debate, the commission decided to rely principally on levees to protect the lower Mississippi Valley. Cooperating with local levee districts, the Mississippi River Commission oversaw the construction of many levees along the river. Later, this levee construction was supplemented with considerable dredging on the river. The commission also attempted to stop the erosion of banks by constructing willow mattresses. In the early 20th century, the Mississippi River Commission experimented with concrete mattresses. Learning both from the successes and failures of these experiments, the Corps developed the articulated concrete revetment that has been used for several decades to protect the banks of the lower Mississippi River.

Beginning in 1893, another important activity of the Corps of Engineers was the California Debris Commission, a three-member body of Army engineers charged to regulate the streams of California that had been devastated by the sediment washed into them from mining operations. Given substantial power by Congress, the California Debris Commission significantly reduced the stream damage caused by hydraulic mining. The Water Resources Development Act of 1986 eliminated this commission. Its work is now the responsibility of the Corps' South Pacific Division.

In 1917, as the United States prepared to enter World War I, the Corps could look back with satisfaction. The versatility, dedication, and intelligence of engineer officers were truly impressive. For instance, Chief of Engineers Henry M. Robert, who is best known as the author of Robert's Rules of Order, oversaw the planning of the Galveston Seawall, a major engineering project. As an engineer officer, Hiram M. Chittenden supervised the construction of roads,

bridges, and aqueducts in Yellowstone National Park. He wrote a report on his survey of reservoir sites in Wyoming and Colorado that contributed to the establishment of what came to be called the Bureau of Reclamation, wrote several important works dealing with the early exploration of the Missouri River Basin by white men, and became a recognized expert on flood control. Finally, George W. Goethals' early work at Davis Island and Muscle Shoals gave him valuable engineering skills and management expertise to successfully finish the Panama Canal. The Panama Canal was built by the Panama Canal Commission, not as is commonly thought by the Corps of Engineers. However, through the efforts of engineer officers such as Goethals, who were detailed to the commission, some of the most difficult construction obstacles were overcome. The canal was opened in August 1914.

The British and French governments made the arrival of American engineers their top priority after the United States joined "The Great War" in April 1917. The Americans responded quickly. By the end of August 1917, nine newly organized engineer railway regiments, recruited largely from workers on the nation's private railroads, together with the engineer regiment of the 1st Division, had crossed the Atlantic and arrived in France. Several of the railway regiments were assigned initially to British or French military formations. It was while serving with the British southwest of Cambrai, France, on September 5, 1917, that Sergeant Matthew Calderwood and Private William Branigan of the 11th Engineers were wounded by artillery fire, thus becoming the first casualties in any U.S. Army unit serving at the front in Europe.

The thousands of engineer troops that served in France in 1917 and 1918 contributed both to front-line and rear-support efforts. The combat engineers constructed bridges, roads, and narrow-gauge railroads at or immediately behind the front. The forestry troops of the 20th Engineers produced roughly 200 million feet of lumber in France. Other engineer troops enlarged French port facilities, constructed more than 20 million square feet of storage space, and built 800 miles of standard-gauge rail lines, plus an equal distance in yards and storage tracks. The technically trained engineers organized the first U.S. Army tank units and developed chemical warfare munitions and defensive equipment. So important were these pursuits that in 1918 the War Department created a separate Tank Corps and a Chemical Warfare Service, the latter headed initially by an engineer officer.

Neglected waterways, demands for hydropower throughout the country, and calls for irrigation projects in the West drew attention to the nation's water resources at the beginning of the 20th century. Multipurpose partisans advocated the application of scientific management to ensure efficient water use. This meant a program of basinwide development that would address all potential applications of the resource.

Unlike the West, where irrigation became the focus of attention, the East was more concerned over hydropower development. Beginning in the early 1880s, when a plant in Appleton, Wisconsin, first used falling water to produce electricity, the construction of hydroelectric dams on the nation's waterways proliferated. These private dams threatened navigation and forced Congress, acting through the Corps of Engineers, to regulate dam construction. The Rivers and

Harbors Acts of 1890 and 1899 required that dam sites and plans be approved by the secretary of war and the Corps of Engineers before construction. The General Dam Act of 1906 empowered the federal government to compel dam owners to construct, operate, and maintain navigation facilities without compensation whenever necessary at hydroelectric power sites.

Private interests developed most power projects before World War I. The Corps of Engineers did install a power station substructure at Lock and Dam #1 on the upper Mississippi River. The government later leased the power facility to the Ford Motor Company. In 1919, the Corps began construction of Dam #2 later renamed Wilson Dam as a hydroelectric facility at Muscle Shoals on the Tennessee River. Support for the facility, which was intended to supply power for nitrate production, declined with the end of World War I, and its completion was threatened. However, by 1925 that project was substantially finished.

President Franklin Roosevelt favored the development of federal hydropower projects to provide consumers with low-cost energy. During the New Deal, the Corps participated in three major hydroelectric power projects: Passamaquoddy Tidal Power Project in Maine, Bonneville Dam on the Columbia River, and Fort Peck Dam on the Missouri River. In 1937, Congress created the Bonneville Power Administration to dispose of the power and set the rates for the power generated at Bonneville Dam.

Meanwhile, concern over flood control intensified. In 1912 13, two terrifying floods had devastated the lower Mississippi Valley and showed the inadequacy of the levee system. Another flood came in 1916, and the first flood control act was passed the following year; it applied only to the Mississippi and Sacramento rivers. Still, the Mississippi River Commission and the Corps continued to depend on levees. That policy was finally changed in 1927, when one of the worst disasters in the nation's history hit the lower Mississippi. The flood was the result of high waters from throughout the Mississippi River's drainage area 41 percent of the continental United States coming together and inundating the lower Mississippi Valley. Between 250 and 500 people were killed, over 16 million acres were flooded, and over 500,000 people were forced from their homes to refugee camps.

Clearly, depending on levees was not the answer. The chief of engineers, Major General Edgar Jadwin drew up a new plan requiring that the water be dispersed through controlled outlets and floodways as well as confined between levees. After lengthy debate, Congress approved this plan in the 1928 Flood Control Act and placed its implementation under the control of the Corps of Engineers. This act launched what today is called the Mississippi River and Tributaries Project. The project has prevented over $100 billion worth of damages since 1928.

Floods continued elsewhere, especially on the Ohio River. Additionally, during the 1930s, there was the misery caused by the Great Depression. Responding to the twin needs for flood protection and work relief, Congress passed the 1936 Flood Control Act, one of the most important events in the history of the Corps of Engineers. For the first time, Congress declared

that flood control was a proper activity of the federal government. The act put the Corps firmly into the reservoir construction business, despite earlier Corps' reservations about the effectiveness of reservoirs. It also established that a potential project's economic benefits must exceed its costs. Furthermore, the act specified the obligations that would have to be assumed by local interests before the Corps could begin certain projects.

The 1944 Flood Control Act signaled the victory of the multipurpose approach. It empowered the secretary of the interior to sell power produced at Corps and other federal projects. The act also authorized the gigantic multipurpose civil works project for the Missouri Basin commonly called the Pick-Sloan Plan. It amalgamated the plans for developing the Missouri Basin proposed by Major General Lewis Pick, formerly Missouri River Division engineer, and W. Glenn Sloan, the assistant regional director for the Bureau of Reclamation. In the ensuing years, the Corps built several huge dams on the main stem of the Missouri River. These dams were all multipurpose. They provided flood control, irrigation, navigation, water supply, hydropower, and recreation.

In November 1940, Marshall ordered the transfer to the Corps of Engineers of all air base construction in the United States, excluding the Canal Zone. Finally, in December 1941, Congress transferred to the Corps the responsibility for real estate acquisition, construction, and maintenance for Army facilities, including training camps, government-owned munitions plants, air bases, depots, and hospitals.

Domestic base construction peaked in 1942, as the nation geared for war. U.S. military construction expenditures in July of that year alone exceeded those spent during the entire period of 1920 1938. By the end of 1942, the Army could house 4.37 million soldiers and provide hospital beds for 180,000 more. It had built 149 munitions and aircraft manufacturing plants and constructed depots with 205 million square feet of storage space. Domestic military construction has remained an important function of the Corps of Engineers since 1942, but never again did it reach the level of that year.

During World War II, Army engineers placed floating and later fixed bridges across the rivers of Italy, France, and Germany, supporting hotly contested crossings of the Rapido, Roer, and Rhine rivers. Engineer troops prepared and developed beaches for assault landings, both in Europe and the Pacific. On the beaches of Normandy, engineer troops, operating under heavy enemy fire, cleared lanes for landing craft by destroying the mine-bearing steel structures that the Germans had implanted in the intertidal zone and bulldozed roads up the narrow draws through the cliffs lining the beaches. During the Battle of the Bulge, quick engineer actions destroyed critical bridges in the path of advancing German forces, slowing and diverting them while Allied forces regrouped. The engineers also opened road connections traversing the long wilderness reaches between the southern Canadian road net and interior Alaska and between British-ruled Assam Province in India and Yunnan Province in southwestern China.

Following World II, federal multipurpose projects expanded considerably. Congress authorized major systems involving hydroelectric power on the Columbia and Snake rivers in the Pacific Northwest, and the Missouri and the Arkansas rivers. The Eisenhower administration challenged some of these ambitious projects as costly federal burdens. However, overall federal power development continued to increase. By 1975, Corps projects the largest on the Columbia and Snake rivers were producing 27 percent of the total U.S. hydropower and 4.4 percent of all electrical energy output.

Outstanding Army engineer support continued in the Korean War. Army engineers destroyed bridges over the Naktong River and built fortifications that helped American and South Korean forces hold the Pusan perimeter in the southeastern corner of the peninsula while General Douglas MacArthur prepared his assault landing at Inchon near Seoul. When Chinese forces entered the war and forced the Americans to retreat, the engineers built lateral roads behind new defensive lines that permitted the rapid movement of forces and equipment to areas subject to heaviest attack. This helped American commanders stabilize the front.

In Vietnam the engineers helped provide access to enemy strongholds in support of concerted U.S. search and destroy missions. To assist in these efforts and to reduce enemy attacks on military convoys, the engineers introduced the Rome plow, a military tractor equipped with a protective cab and a special tree-cutting blade. Engineer troops also constructed 900 miles of modern, paved highways connecting the major population centers of the Republic of Vietnam and monitored the construction by private American contractors of an additional 550 miles of Vietnamese highways.

During the 1960s the Corps responded to two powerful natural disasters: the Alaskan earthquake of 1964 and Hurricane Camille in 1969. The extensive damage caused by these events and Tropical Storm Agnes (1972) prompted Congress in 1974 to broaden federal responsibility for disaster assistance and assigning responsibility to federal agencies.

By the 1980s the Corps' mission had expanded from flood fighting to other hazards. Consequently, the Corps established an emergency management program. In 1988 the Robert T. Stafford Disaster Relief and Emergency Assistance Act authorized the Federal Emergency Management Agency to provide for all disasters, regardless of cause. The Corps works closely with FEMA in many natural disasters including floods, earthquakes, and volcanic eruptions.

Between 1989 and 1992, the Corps responded to the largest and most destructive oil spill in U.S. history in Prince William Sound in Alaska. It also responded to Hurricane Hugo, which caused major damage in the Virgin Islands and coast of the Carolinas, and to the Loma Prieta Earthquake in California. The 1990s brought even costlier natural disasters. Between 1992 and 1995 the Corps performed major repair and rehabilitation work in the wake of Hurricanes Andrew and Iniki, record flooding on the Mississippi and Missouri rivers, and the Northridge earthquake in California.

As in its earliest days, the Corps of Engineers still thinks of itself as an organization ready to help build the nation's infrastructure. However, today "infrastructure" means something more than just internal improvements and transportation systems. Although maintaining the nation's public works remains an imperative, today environmental issues are the chief public works challenges.

Infrastructure development no longer automatically means large construction and maintenance operations. It means developing management techniques, new approaches, and new technology to use our resources more efficiently and to reduce resource depletion. It also means eliminating or reducing contaminants, such as radioactive wastes, toxic and solid wastes, and nonpoint source pollutants of our surface and groundwater. Finally, it involves working with other agencies and organizations to develop effective responses to ecological crises such as oil spills, drought, and fire. In all these areas, the Corps began developing expertise a century or more ago. Clearly, the Corps' historical strengths in program management, engineering design, research and development, and construction will prove invaluable as the agency readies to meet the challenges of the 21st century.

(Link: http://www.usace.army.mil/About/History/Brief-History-of-the-Corps/)

Internal Revenue Service

The roots of IRS go back to the Civil War when President Lincoln and Congress, in 1862, created the position of commissioner of Internal Revenue and enacted an income tax to pay war expenses. The income tax was repealed 10 years later. Congress revived the income tax in 1894, but the Supreme Court ruled it unconstitutional the following year.

In 1913, Wyoming ratified the 16th Amendment, providing the three-quarter majority of states necessary to amend the Constitution. The 16th Amendment gave Congress the authority to enact an income tax. That same year, the first Form 1040 appeared after Congress levied a 1 percent tax on net personal incomes above $3,000 with a 6 percent surtax on incomes of more than $500,000.

In 1918, during World War I, the top rate of the income tax rose to 77 percent to help finance the war effort. It dropped sharply in the post-war years, down to 24 percent in 1929, and rose again during the Depression. During World War II, Congress introduced payroll withholding and quarterly tax payments.

In the 50s, the agency was reorganized to replace a patronage system with career, professional employees. The Bureau of Internal Revenue name was changed to the Internal Revenue Service. Only the IRS commissioner and chief counsel are selected by the president and confirmed by the Senate.

The IRS Restructuring and Reform Act of 1998 prompted the most comprehensive reorganization and modernization of IRS in nearly half a century. The IRS reorganized itself to closely resemble the private sector model of organizing around customers with similar needs.

Wage & Investment Division At-a-Glance

Mission: To provide top quality service by helping taxpayers understand and comply with applicable tax laws and to protect the public interest by applying the tax law with integrity and fairness to all.

Strategic Priorities: The Wage and Investment Division (W&I) supports the IRS' strategic goals and objectives through initiatives that:

- Address the increasing demand for timely, accurate service, and reducing taxpayer burden
- Address the increasing demand for electronic products and services
- Improve enforcement programs to reduce the risks of non-compliance

•Balance compliance and outreach activities to enhance delivery of Earned Income Tax Credit (EITC) initiatives

•Leverage new technology and reengineer business processes to maximize delivery of new business services

•Ensure human capital strategies contribute to quality and productivity

•Continue to evaluate the tax administration support needs of individual taxpayers as part of its overall management of their portfolio of services and delivery channels

•Increase preventive and corrective actions to reduce vulnerability to identity theft

•Balance compliance and outreach activities to ensure cost effective delivery of the health coverage tax credit

Large Business and International Division At-a-Glance

The Large Business and International (LB&I) Division serves corporations, subchapter S corporations, and partnerships with assets greater than $10 million. These businesses typically employ large numbers of employees, deal with complicated issues involving tax law and accounting principles, and conduct business in an expanding global environment.

LB&I is organized into Support and Practice Areas. Support elements use data analysis and an integrated feedback loop to support LB&I's agile model. The Practice Areas study compliance issues within their area of expertise and suggest campaigns to be included in the compliance plan.

Headquarters and Support:

•Assistant Deputy Commissioner, Compliance Integration

•Assistant Deputy Commissioner, International

•Program and Business Solutions

Practice Areas:

•Cross Border Activities Practice Area

•Enterprise Activity Practice Area

•Pass Through Entities Practice Area

•Treaty and Transfer Pricing Operations Practice Area

•Withholding and International Individual Compliance Practice Area

Compliance Practice Areas:

•Central Compliance Practice Area

•Eastern Compliance Practice Area

•Northeastern Compliance Practice Area

•Western Compliance Practice Area

Small Business/Self-Employed Division At-a-Glance

Mission: Help small business and self-employed taxpayers understand and meet their tax obligations, while applying the tax law with integrity and fairness to all.

Strategic Priorities:

•Address the Underreporting Tax Gap

•Address the Underpayment Tax Gap

•Address the Nonfiling Tax Gap

•Improve Service to Our Customers: Improve Business Processes and Systems; Reduce Burden; Enhance Stakeholder Relations

•Develop Human Capital to: Address Strategies; Promote Productivity; Improve Employee Engagement

Tax Exempt & Government Entities Division At-a-Glance

Mission: To provide our customers top quality service by helping them understand and comply with applicable tax laws and to protect the public interest by applying the tax law with integrity and fairness to all.

Customers include small local community organizations, municipalities, major universities, large pension funds to small business plans, state governments and participants of complex tax-exempt bond transactions. Customers are divided into three segments:

•Employee Plans ◦Retirement plans, IRAs, and related trusts

◦Plan participants and beneficiaries

◦Employer sponsors of retirement plans

•Exempt Organizations ◦Organizations exempt from income tax under Internal Revenue Code Section 501 (including private foundations and organizations described in IRC 170(b)(1)(A)(except clause (v))

◦Political organizations described in IRC 527

◦Organizations described in IRC 4947(a)

◦Prepaid legal plans described in IRC 120

◦Welfare benefit funds described in IRC 4976

•Government Entities ◦Federal, state and local governments

◦Indian tribal governments

◦Tax-exempt bonds

Activities

•Education and communication to help customers understand their tax responsibilities.

•Rulings and agreements to provide an emphasis on up-front compliance, such as the determination and voluntary compliance programs.

•Examinations to identify and address non-compliance.

•Customer account services to provide taxpayers with efficient tax filings as well as accurate and timely responses to questions and requests for information.

•Coordination with other IRS divisions and oversight entities, including the Department of the Treasury, Department of Labor, Pension Benefit Guaranty Corporation, Congressional committees, and state governments

(Link: https://www.irs.gov/uac/brief-history-of-irs)

Natural Resources Conservation Service (NRCS)

The Natural Resources Conservation Service (NRCS) draws on a long history of helping people help the land. For 80 years, NRCS and its predecessor agencies have worked in close partnerships with farmers and ranchers, local and state governments, and other federal agencies to maintain healthy and productive working landscapes. For 80 years, the Natural Resources Conservation Service has been a pioneer in conservation, working with landowners, local and state governments, and other federal agencies to maintain healthy and productive working landscapes.

On April 27, 1935 Congress passed Public Law 74-46, in which it recognized that "the wastage of soil and moisture resources on farm, grazing, and forest lands . . . is a menace to the national welfare," and it directed the Secretary of Agriculture to establish the Soil Conservation Service (SCS) as a permanent agency in the USDA. In 1994, Congress changed SCS's name to the Natural Resources Conservation Service (NRCS) to better reflect the broadened scope of the agency's concerns.

The creation of the Soil Conservation Service represented the culmination of the efforts of Hugh Hammond Bennett, "father of Soil Conservation" and the first Chief of SCS, to awaken public concern for the problem of soil erosion. Bennett became aware of the threat posed by the erosion of soils early in his career as a surveyor for the USDA Bureau of Soils. He observed how soil erosion by water and wind reduced the ability of the land to sustain agricultural productivity and to support rural communities who depended on it for their livelihoods. He launched a public crusade of writing and speaking about the soil erosion crisis. His highly influential 1928 publication "Soil Erosion: A National Menace" influenced Congress to create the first federal soil erosion experiment stations in 1929.

With the election of Franklin D. Roosevelt as President in 1932, conservation of soil and water resources became a national priority in the New Deal administration. The National Industrial Recovery Act (P.L. 73-67) passed in June 1933 included funds to fight soil erosion. With this money, the Soil Erosion Service (SES) was established in the Department of Interior with Hugh Bennett as Chief in September 1933. SES established demonstration projects in critically eroded areas across the country to show landowners the benefits of conservation.

Perhaps no event did more to emphasize the severity of the erosion crisis in the popular imagination than the Dust Bowl. Beginning in 1932, persistent drought conditions on the Great Plains caused widespread crop failures and exposed the region's soil to blowing wind. A large dust storm on May 11, 1934 swept fine soil particles over Washington, D.C. and three hundred miles out into the Atlantic Ocean. More intense and frequent storms swept the Plains in 1935. On March 6 and again on March 21, dust clouds passed over Washington and darkened the sky just as Congress commenced hearings on a proposed soil conservation law. Bennett seized the opportunity to explain the cause of the storms and to offer a solution. He penned editorials and testified to Congress urging for the creation of a permanent soil conservation agency. The result

was the Soil Conservation Act (PL 74-46), which President Roosevelt signed on April 27, 1935, creating the Soil Conservation Service (SCS) in the USDA.

After 1935, SCS expanded its soil conservation program nationwide with a several-fold increase in the number of demonstration projects. Labor provided by the Civilian Conservation Corps (CCC), the Civil Works Administration (CWA), and the Works Progress Administration (WPA) supported this work. SCS's technical experts worked to advance scientific understanding of erosion processes and to develop effective conservation practices. SCS's network of regional nurseries selected and increased the seeds and plants necessary for conservation work.

In 1936, the agency assumed responsibility for performing surveys and devising flood control plans for selected watersheds under the authority of the Flood Control Act of 1936 (P.L. 74-738). In 1938, in a major reorganization of USDA's land management program, the Secretary of Agriculture made SCS responsible for administering the Department's drainage and irrigation assistance programs, the snow survey and water supply forecasting program, as well as the Water Facilities, Land Utilization, and Farm Forestry programs. The addition of these responsibilities made SCS the USDA's lead private lands conservation agency.

As early as 1935 USDA managers began to search for ways to extend conservation assistance to more farmers. They believed the solution was to establish democratically organized soil conservation districts to lead the conservation planning effort at the local level. To create a framework for cooperation, USDA drafted the Standard State Soil Conservation Districts Law, which President Roosevelt sent to the governors of all the states in 1937. The first soil conservation district was organized in the Brown Creek watershed of North Carolina on August 4, 1937. Today, there over three thousand conservation districts across the country.

The decade after World War II was a time of growth for SCS. Congress increased appropriations for soil conservation programs. The Secretary made SCS the lead agency responsible for technical oversight of the "permanent" type conservation measures installed with cost-share funds under the Agricultural Conservation Program (ACP). During this time the number of soil conservation districts continued to increase, as did the number of cooperators working with SCS to develop conservation plans for their farms.

Hugh Bennett stepped-down as Chief in 1951 and retired from federal service in 1952. The same year Secretary of Agriculture Charles Brannan unified USDA soils works when he merged the Soil Survey into SCS. Brannan also transferred most of SCS's research activities to the Agricultural Research Service and gave the Forest Service responsibility for administering SCS's Land Utilization Projects. In 1953, as part of a major reorganization of the USDA, SCS's regional offices were eliminated and the technical role of state offices was enhanced. At this time, SCS's nurseries relinquished their plant production role, but continued to select plants for conservation uses at Plant Materials Centers

Perhaps the most important development in the Post-War era came with passage of the Watershed Protection and Flood Control Act (P.L. 84-566) in 1954. Watershed planning has been an important part of the agency's mission since the 1930s. Hugh Bennett recognized that successful soil and water conservation required addressing resource concerns at the watershed scale. SCS organized its early demonstration projects on a watershed basis. With passage of the Flood Control Act of 1936, SCS began watershed investigations to determine the most effective methods to control erosion and prevent floods. The Flood Control Act of 1944 (PL 78-534) authorized SCS to begin work on its first eleven watershed projects. The Agricultural Appropriations Act of 1953 (P.L. 83-156) authorized an additional 63 projects. With the support of President Dwight D. Eisenhower, Congress gave SCS permanent watershed planning authority with passage of the Watershed Protection and Flood Prevention Act (P.L. 84-566). Since 1944, SCS, now NRCS, has constructed nearly 11,000 dams on some 2,000 watershed projects that continue to provide flood control, water supplies, recreation, and wildlife habitat benefits.

With arrival of another prolonged drought in the 1950s Congress passed the Great Plains Conservation Program which focused financial assistance for conservation in the Plains states. SCS provided financial and technical assistance to meet multiple objectives of conservation and economic stability. During this period, SCS also began to provide technical assistance for the Soil Bank Program which paid rental payments for retired cropland and provided financial incentives to farmers for planting protective cover crops.

In the 1960s, under the Kennedy and Johnson administrations, SCS's role expanded to address new concerns in the countryside in the cities. The agency began to emphasize rural development and recreation as conservation planning objectives. Creation of the Resource Conservation and Development program (RC&D) in 1962 allowed SCS to work with landowners in areas larger than small watersheds or conservation districts to develop long term economic development plans for the entire project area. SCS also began to focus on providing recreational benefits with its projects. SCS also began to become more involved in suburbanizing areas where farmland was being developed as commercial and residential areas. These initiatives were part of a broader effort by the USDA to extend its services to all of American not just the parts that live in rural areas or engage in production agriculture.

The 1960s and 1970s was a time of broad popular concern about the health of the environment. Expressed most prominently in the first Earth Day demonstration in 1970, these concerns led to the creation of a national framework of environmental policies during that changed the way SCS put conservation on the ground. The National Environmental Policy Act (P.L. 91-190), signed into law in 1970 by President Richard Nixon, required federal agencies to evaluate and report on the environmental impacts of their activities. Water quality and non-point source pollution became important areas of concern with passage the Federal Water Pollution Control Amendments (P.L. 92-500) in 1972 and the Clean Water Act (P.L. 95-217) in 1977. The protection of wetlands emerged as critical issue with SCS participation in the Water Bank program, which provided incentives to landowners to protect wetland habitat.

During the 1970s, SCS also gained greater authority to monitor and assess the nation's natural resource base. Congress authorized the National Resources Inventory (NRI) in the Rural Development Act of 1972 (P.L. 92-419) to better understand the implications of land use changes for soil erosion. The Soil and Water Resources Conservation Act of 1977 (P.L. 95-192) extended this authority and required USDA to regularly report to Congress on the condition of the soil and water resources on non-federal lands as part of a process for developing more effective conservation policies and laws.

The farm crisis of the 1980s created an opening for the implementation of innovative conservation policies developed as part of the Resource Conservation Act (RCA) process. The Food Security Act of 1985 (P.L. 99-198), with its Sodbuster, Swampbuster, and Highly Erodible Lands provisions, made conservation a prerequisite for participation in USDA programs. It also established the Conservation Reserve Program (CRP) to provide rental payments to farmers for putting cropland into grass or trees. Another important development during this period was the widespread adoption of conservation tillage practices, which has led to a significant reduction in soil erosion. SCS working with its partners played a significant role working to administer these programs and develop the necessary tools and technology to make these conservation innovations possible.

In a number of areas the NRCS has participated in what might be termed "restoration" projects to reverse previous land, channel and wetland alterations. In 1994 NRCS assumed management of the Wetland Reserve Program which had been authorized in the 1990 farm bill. Funds provided for restoration as well as long-term or permanent easements. SCS geologists and landscape architects coordinated a Federal effort to produce a "Stream Corridor Restoration" manual. The manual placed emphasis on use of vegetation rather than structural works for stream corridor restoration. The Conservation Reserve Program (CRP), authorized in the 1985 farm bill, provided for long-term (10-year) rentals of cropland and establishment of vegetation on the reserve acres. In requiring vegetative cover, the SCS placed great emphasis on native species of grass. The nurseries and plant materials centers, which had been selecting plants for conservation uses since the beginning of the agency, now put an emphasis on selecting native seeds and plants for use in prairie and wetland restoration. They had also worked with the National Park Service to select and increase native seed and plants for the National Parks.

In 1994, Congress initiated a major reorganization of the USDA and renamed SCS the Natural Resources Conservation Service (NRCS) to better reflect the broad scope of the agency's mission. These changes marked the beginning of two major trends that have defined the Service's role in conservation since. The first is NRCS's growing responsibility for administering financial assistance for conservation programs. The other increases many times over in the amount of financial assistance available for conservation. The result over the last two decades has been a proliferation of innovation programs that give conservationists and landowners the necessary means to protect our nation's natural resources.

The Natural Resources Conservation Service continues to fulfill the conservation legacy established in 1935 by Hugh Hammond Bennett even as it adapts to changing concerns and takes on new responsibilities to address present and future challenges. Through 75 years of experience, SCS and, now NRCS, has developed numerous science-based tools and standards in agronomy, forestry, engineering, economics, wildlife biology and other disciplines that local NRCS field office conservationists use in helping landowners plan and install conservation practices. NRCS professional are guided by a conservation philosophy instilled in the Service from experience. This is to assess the resources on the land. Evaluate the conservation problems and opportunities. Look to different sciences and disciplines for solutions. Integrate all into a conservation plan for the whole property. Through implementing conservation on individual projects, contribute to the overall quality of life in the watershed or region. And, always work closely with land users so that the conservation plan reconciles with their objectives. These principles have served well as a foundation for addressing conservation challenges now for seventy-five years and will continue do so in the future.

(Link: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/about/history/?cid=nrcs143_021392)

The Jet Propulsion Laboratory

The Jet Propulsion Laboratory is a unique national research facility that carries out robotic space and Earth science missions. JPL helped open the Space Age by developing America's first Earth-orbiting science satellite, creating the first successful interplanetary spacecraft, and sending robotic missions to study all the planets in the solar system as well as asteroids, comets and Earth's moon. In addition to its missions, JPL developed and manages NASA's Deep Space Network, a worldwide system of antennas that communicates with interplanetary spacecraft.

JPL is a federally funded research and development center managed for NASA by Caltech. From the long history of leaders drawn from the university's faculty to joint programs and appointments, JPL's intellectual environment and identity are profoundly shaped by its role as part of Caltech.

JPL grew up with the Space Age and helped bring it into being. It is a place where science, technology, and engineering intermix in unique ways: to produce iconic robotic space explorers sent to every corner of the solar system, to peer deep into the Milky Way galaxy and beyond, and to keep a watchful eye on our home planet. Analyzing the data pouring back from these machine emissaries, scientists around the world continue to discover how the universe, the solar system, and life formed and evolved.

JPL's beginnings can be traced to the mid-1930s, when a few Caltech students and amateur rocket enthusiasts started tinkering with rockets. After an unintended explosion occurred on campus, the group and its experiments relocated to an isolated area next to the San Gabriel Mountains, the present-day site of JPL. In the following decade, as an anxious country sought to respond to the menacing challenge of German V-2 rockets, the fledgling Jet Propulsion Laboratory (officially named in 1944, some 14 years before NASA was formed) was sponsored by the U.S. Army to develop rocket technology and the Corporal and Sergeant Missile systems.

Becoming Part of the NASA Family

The early years of space exploration were fueled by the Cold War. The Soviet Union won the first round in October 1957 by placing Sputnik into Earth orbit. The "beep-beep" sound transmitted by the satellite was nervously heard around the free world, and pressure mounted for the United States to respond. In less than three months, JPL had built Explorer 1, launched in January 1958 to become America's first satellite. Even this first spacecraft made an important scientific discovery: it detected what would become known as the Van Allen radiation belts encircling Earth, named after James Van Allen, the scientist who designed the main instrument on Explorer 1. The National Aeronautics and Space Administration was founded in October 1958, and JPL was transferred from the Army to the new agency.

The transition from the Army to NASA also marked another change. The Laboratory began to turn its attention from the rockets themselves to the payloads they would carry. Developing these payloads - scientific spacecraft - would become the new focus and place JPL at the center of the Space Race with the Soviet Union. Even though the Laboratory's charter had completely evolved away from rockets and jets, "Jet Propulsion Laboratory" had become the official name and was retained. Another defining moment for America in space came in 1962, when the JPL-built Mariner 2 flew past Venus to become the world's first spacecraft to successfully encounter another planet. Thus commenced a long series of "first ever" accomplishments by JPL that helped define history's first five decades of space exploration. JPL has a unique position within the NASA family. Ever since its transfer to NASA, JPL has been structured as an FFRDC(Federally Funded Research and Development Center) dedicated to the robotic exploration of space. The Laboratory is NASA's only FFRDC and works alongside NASA's nine field centers. However, unlike those centers, which are staffed by government civil servants, JPL is managed for NASA by Caltech under a contractual arrangement begun in 1958 and renewed every five years. Thus, JPLers are Caltech employees.

In the 1970s, 1980s, and early 1990s, NASA focused JPL's expertise on large, complex, one-of-a-kind space missions. This era produced the Voyagers to the outer planets, the Vikings to Mars (in partnership with NASA's Langley Research Center), the Galileo mission to the Jupiter system (in partnership with NASA's Ames Research Center), and Cassini-Huygens to the Saturn system (in partnership with the European Space Agency and the Italian Space Agency). These legendary spacecraft extended humanity's senses throughout the solar system, letting us examine the planets and moons up close.

Today JPL continues its world-leading innovation, implementing programs in planetary exploration, Earth science, space-based astronomy and technology development, while applying its capabilities to technical and scientific problems of national significance. JPL technology developed to enable new missions is also applied on Earth to benefit our everyday lives

(Link: http://www.jpl.nasa.gov/about/index.php)

U.S. Coast Guard

The U. S. Coast Guard is simultaneously and at all times a military force and federal law enforcement agency dedicated to maritime safety, security, and stewardship missions. The Coast Guard's official history began on 4 August 1790 when President George Washington signed the Tariff Act that authorized the construction of ten vessels to enforce federal tariff and trade laws and to prevent smuggling. Known variously through the nineteenth and early twentieth centuries as the "revenue cutters," the "system of cutters," the Revenue Marine and finally the Revenue Cutter Service, it expanded in size and responsibilities as the nation grew.

The service received its present name in 1915 under an act of Congress that merged the Revenue Cutter Service with the U. S. Life-Saving Service. The latter consisted of dozens of stations placed around the nation's coastlines that were manned by dedicated crews willing to risk their lives to save those in peril on the sea, a role that meshed well with the Revenue Cutter Service's core missions. Also, the legislation creating this "new" Coast Guard expressly stated that it "shall constitute a part of the military forces of the United States," thereby codifying the service's long history of defending the country along side the nation's other armed services. The Coast Guard began maintaining the country's aids to maritime navigation, including lighthouses, when President Franklin Roosevelt ordered the transfer of the Lighthouse Service to the Coast Guard in 1939. In 1946 Congress permanently transferred the Commerce Department's Bureau of Marine Inspection and Navigation to the Coast Guard, which placed merchant marine licensing and merchant vessel safety under its purview. The nation now had a single maritime federal agency dedicated to saving life at sea and enforcing the nation's maritime laws.

The Coast Guard is one of the oldest organizations of the federal government and until Congress established the Navy Department in 1798 it served as the nation's only armed force afloat. The Coast Guard protected the nation throughout its long history and served proudly in the majority of the nation's conflicts. The Coast Guard's national defense responsibilities remain one of its most important functions even today. In times of peace it operates as part of the Department of Homeland Security, serving as the nation's front-line agency for enforcing the nation's laws at sea, protecting the marine environment and the nation's vast coastline and ports, and saving life. In times of war, or at the direction of the President, the Coast Guard serves as part of the Navy Department.

The Coast Guard is an amalgamation of five formerly distinct federal services. The following timeline reflects the establishment of those services and when they became part of what is now the United States Coast Guard as well as changes in the organizational structure of the Coast Guard itself.

•7 August 1789: The service, eventually to be known as the U.S. Lighthouse Service, was established under the control of the Treasury Department (1 Stat. L., 53).

•1 September 1789: Navigation law administration was placed under Secretary of the Treasury by an act of 1 September 1789 (1 Stat. 55), with local enforcement by Treasury customs officials. On 22 January 1793, the Register of the Treasury became responsible for vessel documentation and for navigation and tonnage statistics. The Bureau of Statistics was established by an act of 28 July 1866 (14 Stat. 331), to collect navigation statistics, assign numbers to merchant vessels, and publish the annual list of American merchant vessels. Pursuant to acts of 26 May 1790 (1 Stat. 122) and 3 March 1797 (1 Stat. 506), district court judges submitted requests to the Secretary of the Treasury for remission of fines and penalties under the navigation laws. The Navigation Division was established in the Treasury Department in 1870 to administer the fines and penalties function. Re-designated as the Internal Revenue and Navigation Division in 1878 it was re-designated Mercantile Marine and Internal Revenue Division in 1884. It was abolished in 1887. U.S. circuit courts handled disputes between seamen and masters until 7 June 1872 when judges were authorized to appoint shipping commissioners at various ports to administer navigation laws relating to merchant seamen.

•4 August 1790: Congress authorized the Secretary of the Treasury, Alexander Hamilton, to create a maritime service to enforce customs laws (1 Stat. L. 145, 175). Alternately known as the system of cutters, Revenue Service, and Revenue-Marine this service was placed under the control of the Treasury Department.

•7 July 1838: Vessel inspections, first required by an act of 7 July 1838 (5 Stat. 304), were performed by engineers appointed by U.S. District Court judges. The Steamboat Act (10 Stat. 61), 30 August 1852, formally established the Steamboat Inspection Service in the Department of the Treasury and authorized the appointment of supervising steam vessel inspectors, who collectively constituted the Board of Supervising Inspectors. An act of 28 February 1871 (16 Stat. 458), authorized the appointment of a Supervising Inspector General for the Steamboat Inspection Service. Steamboat Inspection Service was transferred to the Department of Commerce and Labor by act of 14 February 1903 (32 Stat. 825), and to the Department of Commerce by act of 4 March 1913 (37 Stat. 736). It was combined with the Bureau of Navigation to form Bureau of Navigation and Steamboat Inspection by act of 30 June 1932 (47 Stat. 415). It was renamed Bureau of Marine Inspection and Navigation in 1936.

•14 August 1848: Congress appropriated funds to pay for life-saving equipment to be used by volunteer organizations (9 Stat. L., 321, 322).

•30 August 1852: Steamboat Act established the Steamboat Inspection Service under the control of the Treasury Department (10 Stat. L. 61, 1852).

•9 October 1852: The Lighthouse Board, which administered the nation's lighthouse system until 1 July 1910, was organized. "This Board was composed of two officers of the Navy, two officers of the Engineer Corps, and two civilians of high scientific attainments whose services were at the disposal of the President, and an officer of the Navy and of the, Engineers as secretaries. It was empowered under the Secretary of the Treasury to "discharge all the administrative duties" relative to lighthouses and other aids to navigation. The Secretary of the Treasury was president of the Board, and it was authorized to elect a chairman and to divide the coast of the United States into twelve lighthouse districts, to each of which the President was to assign an army or navy officer as lighthouse inspector."

•18 June 1878: U.S. Life-Saving Service established as a separate agency under the control of the Treasury Department (20 Stat. L., 163).

•5 July 1884: U.S. Bureau of Navigation was established in the Treasury Department by act of 5 July 1884 (23 Stat 118), to consolidate the administration of all navigation laws except those relating to vessel inspection, lighthouses, lifesaving, and revenue collection. Comprised of employees from the Bureau of Statistics concerned with numbering merchant vessels; the Register and Tonnage Division of the Register of the Treasury; the Internal Revenue and Navigation Division; and shipping commissioners, thereafter appointed by the Secretary of the Treasury. It was transferred to Department of Commerce and Labor by act of 14 February 1903 (32 Stat. 825), and to the Department of Commerce by act of 4 March 1913 (37 Stat. 736). It was consolidated with Steamboat Inspection Service, effective 1 August 1932, by an appropriations act of 30 June 1932 (47 Stat. 415) to form the Bureau of Navigation and Steamboat Inspection. It was redesignated Bureau of Marine Inspection and Navigation by Public Law 622 (49 Stat. L., 1380), 27 May 1936.

•14 February 1903: Congress created the Department of Commerce and Labor (32 Stat. L., Ch. 552). Bureau of Navigation, Steamship Inspection Service, and Lighthouse Service (Lighthouse Board and Lighthouse Establishment) were transferred to the new department (32 Stat. L., 825-827) .

•17 June 1910: An Act of Congress (36 Stat. L., 534) abolished the Lighthouse Board and created the Bureau of Lighthouses to have complete charge of the Lighthouse Service (Establishment). This law constituted the organic act under which the Lighthouse Service operated thereafter. Mr. George R. Putnam, the first Commissioner of Lighthouses, took office on 1 July 1910. He served in that capacity until his retirement in 1935.

•28 January 1915: President Woodrow Wilson signed into law the "Act to Create the Coast Guard," an act passed by Congress on 20 January, 1915 that combined the Life-Saving Service and Revenue Cutter Service to form the Coast Guard (38 Stat. L., 800).

•6 April 1917: With the declaration of war against Germany the Coast Guard was transferred by Executive Order to the control of the Navy Department.

•28 August 1919: Coast Guard reverted to Treasury Department after President Wilson signed Executive Order 3160.

•30 June 1932: Steamboat Inspection Service and Bureau of Navigation were combined to form the Bureau of Navigation and Steamboat Inspection (47 Stat. L., 415). The new agency remained under Commerce Department control.

•27 May 1936: Public Law 622 reorganized and changed the name of the Bureau of Navigation and Steamboat Inspection Service to Bureau of Marine Inspection and Navigation (49 Stat. L., 1380). The Bureau remained under Commerce Department control.

•1 September 1938: The U. S. Maritime Service was placed under the administration of the Coast Guard. The Coast Guard was then responsible for administering the Maritime Service's training stations.

•1 July 1939: The Lighthouse Service became part of the Coast Guard (53 Stat. L., 1432).

•1 November 1941: President Roosevelt’s Executive Order 8929 transferred the Coast Guard to Navy Department control.

•28 February 1942: Executive Order 9083 transferred Bureau of Marine Inspection temporarily to the Coast Guard.

•1 September 1942: The Coast Guard's administration of Maritime Service training ended and that power was transferred to the newly established War Shipping Administration.

•1 January 1946: In compliance with Executive Order 9666, the Coast Guard returned to Treasury Department control.

•16 July 1946: Pursuant to Executive Order 9083 and Reorganization Plan No. 3 the Bureau of Marine Inspection was abolished and became a permanent part of the Coast Guard under Treasury Department control.

•1 April 1967: Executive Order 167-81 transferred the Coast Guard from the Treasury Department to the newly-formed Department of Transportation.

•1967: The Bridge Program was transferred from the Army Corp of Engineers to the U.S. Coast Guard within the Department of Transportation. The Coast Guard then became responsible for approval of the location and plans of bridges and causeways constructed across navigable waters of U.S. In addition, the Coast Guard was responsible for approval of the location and plans of international bridges and the alteration of bridges found to be unreasonable obstructions to navigation. Authority for these actions is found in in the following laws: 33 U.S.C 401, 491, 494, 511-524, 525 and 535a, 535b, 535c, 535e, 535f, 535g, and 535h (Note: these are all separate sections, not subsections of 535). Section 535 and following is popularly known as the International Bridge Act of 1972. The implementing regulations are found in Title 33, Code of Federal Regulations Parts 114 through 118.

•1 March 2003: The Coast Guard formally transferred from the Department of Transportation to the newly-created Department of Homeland Security.

•2004: To create unity of command in America's ports, better align field command structures, and improve Coast Guard operational effectiveness, Sector Commands were created throughout the Coast Guard by integrating Groups, Marine Safety Offices (MSOs), Vessel Traffic Services (VTSs), and in some cases, Air Stations. Sector Commands were established by 2006.

(Link: http://www.uscg.mil/history/web/USCGbriefhistory.asp)

Department of Housing and Urban Development (HUD)

HUD's mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. HUD is working to strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes; utilize housing as a platform for improving quality of life; build inclusive and sustainable communities free from discrimination, and transform the way HUD does business.

The Federal Housing Administration, generally known as "FHA", provides mortgage insurance on loans made by FHA-approved lenders throughout the United States and its territories. FHA insures mortgages on single family and multifamily homes including manufactured homes and hospitals. It is the largest insurer of mortgages in the world, insuring over 34 million properties since its inception in 1934.

FHA mortgage insurance provides lenders with protection against losses as the result of homeowners defaulting on their mortgage loans. The lenders bear less risk because FHA will pay a claim to the lender in the event of a homeowner's default. Loans must meet certain requirements established by FHA to qualify for insurance.

FHA is the only government agency that operates entirely from its self-generated income and costs the taxpayers nothing. The proceeds from the mortgage insurance paid by the homeowners are captured in an account that is used to operate the program entirely. FHA provides a huge economic stimulation to the country in the form of home and community development, which trickles down to local communities in the form of jobs, building suppliers, tax bases, schools, and other forms of revenue.

Congress created the Federal Housing Administration (FHA) in 1934. The FHA became a part of the Department of Housing and Urban Development's (HUD) Office of Housing in 1965. When the FHA was created, the housing industry was flat on its back:

- Two million construction workers had lost their jobs.
- Terms were difficult to meet for homebuyers seeking mortgages.
- Mortgage loan terms were limited to 50 percent of the property's market value, with a repayment schedule spread over three to five years and ending with a balloon payment.
- America was primarily a nation of renters. Only four in 10 households owned homes.

During the 1940s, FHA programs helped finance military housing and homes for returning veterans and their families after the war.

In the 1950s, 1960s and 1970s, the FHA helped to spark the production of millions of units of privately-owned apartments for elderly, handicapped and lower income Americans. When soaring inflation and energy costs threatened the survival of thousands of private apartment buildings in the 1970s, FHA's emergency financing kept cash-strapped properties afloat.

The FHA moved in to steady falling home prices and made it possible for potential homebuyers to get the financing they needed when recession prompted private mortgage insurers to pull out of oil producing states in the 1980s. By 2001, the nation's homeownership rate had soared to an all time high of 68.1 percent as of the third quarter that year.

The FHA and HUD have insured over 34 million home mortgages and 47,205 multifamily project mortgages since 1934. FHA currently has 4.8 million insured single family mortgages and 13,000 insured multifamily projects in its portfolio.

In the 80 years since the FHA was created much has changed and Americans are now arguably the best housed people in the world. HUD has helped greatly with that success.

History

1937 U.S. Housing Act of 1937

1965 Department of Housing and Urban Development Act of 1965 creates HUD as Cabinet-level agency.

1966 Robert C. Weaver becomes the first HUD Secretary, January 18.

1968 Riots in major cities follow assassination of Dr. Martin Luther King Jr. Civil Rights Act of 1968 (also known as the Fair Housing Act) outlaws most housing discrimination, gives HUD enforcement responsibility. Housing Act of 1968 establishes Government National Mortgage Association (Ginnie Mae) to expand availability of mortgage funds for moderate income families using government guaranteed mortgage-backed securities.

1969 Robert C. Wood receives recess appointment as HUD Secretary, January 7. George C. Romney is appointed HUD Secretary by President Richard M. Nixon, January 22.

1970 Housing and Urban Development Act of 1970 introduces Federal Experimental Housing Allowance Program and Community Development Corporation.

1972 Pruitt-Igoe public housing buildings in St. Louis are demolished.

1973 President Nixon declares moratorium on housing and community development assistance. James T. Lynn becomes HUD Secretary, February 2.

1974 Housing and Community Development Act consolidates programs into Community Development Block Grant (CDBG) program. Section 8 tenant-based certificates increase low-income tenants' choice of housing. Gerald R. Ford becomes president following Nixon's resignation.

1975 Carla A. Hills is appointed HUD Secretary, March 10.

1977 Patricia R. Harris is appointed HUD Secretary by President James E. Carter, January 23. Urban Development Action Grants (UDAG) give distressed communities funds for residential or nonresidential use.

1979 Moon Landrieu becomes HUD Secretary, September 24. Inflation hits 19 percent, seriously impacting home buying and home mortgage loans.

1980 Depository Institutions' Deregulation and Monetary Control Act of 1980 changes rules governing thrift institutions, expands alternative mortgages.

1981 Samuel R. Pierce Jr. is appointed HUD Secretary by President Ronald W. Reagan, January 23. Interest rates for FHA-insured mortgages peak at 15.17 percent (up from 7 percent in 1972).

1983 Housing and Urban-Rural Recovery Act of 1983 begins Housing Development Action Grant and Rental Rehabilitation programs.

1987 Stewart B. McKinney Act sets up programs to help communities deal with homelessness.

1988 Indian Housing Act gives HUD new responsibilities for housing needs of Native Americans and Alaskan Indians. Housing and Community Development Act allows sale of public housing to resident management corporations. Fair Housing Amendments Act makes it easier for victims of discrimination to sue, stiffens penalties for offenders.

1989 Jack F. Kemp is appointed HUD Secretary by President George H. W. Bush, February 13. Financial Institutions' Reform, Recovery, and Enforcement Act bails out failing thrift institutions.

1990 Cranston-Gonzalez National Affordable Housing Act emphasizes homeownership and tenant-based assistance, launches HOME housing block grant. Low-Income Housing Preservation and Residential Homeownership Act of 1990 fortifies Federal commitment to preservation of -assisted low-income, multifamily housing.

1992 Federal Housing Enterprises' Financial Safety and Soundness Act of 1992 creates HUD Office of Federal Housing Enterprise Oversight to provide public oversight of FNMA and Federal Home Loan Mortgage Corporation (Freddie Mac).

1993 Henry G. Cisneros is named Secretary of HUD by President William J. Clinton, January 22. Empowerment Zone and Enterprise Community program becomes law as part of the Omnibus Budget Reconciliation Act of 1993.

1995 "Blueprint for Reinvention of HUD" proposes sweeping changes in public housing reform and FHA, consolidation of other programs into three block grants.

1996 Homeownership totals 66.3 million American households, the largest number ever.

1997 Andrew M. Cuomo is named by President Clinton to be Secretary of Housing and Urban Development, the first appointment ever from within the Department.

1998 HUD opens Enforcement Center to take action against HUD-assisted multifamily property owners and other HUD fund recipients who violate laws and regulations. Congress approves Public Housing reforms to reduce segregation by race and income, encourage and reward work, bring more working families into public housing, and increase the availability of subsidized housing for very poor families.

2000 America's homeownership rate reaches a new record-high of 67.7 percent in the third quarter of 2000. A total of 71.6 million American families own their homes - more than at any time in American history.

2001 Mel Martinez, named by President George W. Bush to be Secretary of Housing and Urban Development, is unanimously confirmed by the U.S. Senate on January 23, 2001.

2004 Alphonso Jackson, named by President George W. Bush to be Secretary of Housing and Urban Development, is unanimously confirmed by the U.S. Senate on March 31, 2004. Mr. Jackson is the first Deputy Secretary to subsequently be named Secretary.

2008 Steve Preston was sworn in as the 14th HUD Secretary on June 5, 2008. He was nominated by President George W. Bush and unanimously confirmed by the Senate.

2009 Shaun Donovan was sworn in as the 15th Secretary of the U.S. Department of Housing and Urban Development on January 26, 2009. President Obama named Donovan to lead the Department and the U.S. Senate confirmed his nomination to confront the challenges facing today's housing market.

2014 Julián Castro was sworn in as the 16th Secretary of the U.S. Department of Housing and Urban Development on July 28, 2014.

(Link: https://portal.hud.gov/hudportal/HUD?src=/about/hud_history)

U.S. Border Patrol

Since its inception in 1924, the U.S. Border Patrol has had a proud history of service to the nation. Although enormous changes have affected nearly every aspect of its operations from its earliest days, the basic values that helped shape the Patrol in the early years; professionalism, honor, integrity, respect for human life, and a shared effort, have remained.

The Origins of the Border Patrol

Mounted watchmen of the U.S. Immigration Service patrolled the border in an effort to prevent illegal crossings as early as 1904, but their efforts were irregular and undertaken only when resources permitted. The inspectors, usually called Mounted Guards, operated out of El Paso, Texas. Though they never totaled more than seventy-five, they patrolled as far west as California trying to restrict the flow of illegal Chinese immigration.

In March 1915, Congress authorized a separate group of Mounted Guards, often referred to as Mounted Inspectors. Most rode on horseback, but a few operated cars and even boats. Although these inspectors had broader arrest authority, they still largely pursued Chinese immigrants trying to avoid the Chinese exclusion laws. These patrolmen were Immigrant Inspectors, assigned to inspection stations, and could not watch the border at all times. Military troops along the southwest border performed intermittent border patrolling, but this was secondary to "the more serious work of military training." Aliens encountered illegally in the U.S. by the military were directed to the immigration inspection stations. Texas Rangers were also sporadically assigned to patrol duties by the state, and their efforts were noted as "singularly effective."

Customs violations and intercepting communications to "the enemy" seemed to be of a greater concern than enforcing immigration regulations in the early years of the twentieth century. Agencies charged with inspecting people and goods entering and leaving the U.S. noticed that their efforts were totally ineffective without border enforcement between inspection stations. After 1917, a higher head tax and literacy requirement imposed for entry prompted more people to try to enter illegally.

In 1918, Supervising Inspector Frank W. Berkshire wrote to the Commissioner-General of Immigration expressing his concerns about the lack of a coordinated, adequate effort to enforce immigration and customs laws along the border with Mexico.

Prohibition and Border Control

Inspecting an early stage, 1927The Eighteenth Amendment to the United States Constitution, prohibiting the importation, transport, manufacture or sale of alcoholic beverages went into effect at midnight on January 16, 1920. With the passage of this constitutional amendment and the numerical limits placed on immigration to the United States by the Immigration Acts of 1921 and 1924, border enforcement received renewed attention from the government. The numerical

limitations resulted in people from around the world to try illegal entry if attempts to enter legally failed. Therefore, the mission of the Border Patrol became more important to the U.S. Government.

These events set the wheels of change into motion. On May 28, 1924, Congress passed the Labor Appropriation Act of 1924, officially establishing the U.S. Border Patrol for the purpose of securing the borders between inspection stations. In 1925 its duties were expanded to patrol the seacoast.

Officers were quickly recruited for the new positions. The Border Patrol expanded to 450 officers. Many of the early agents were recruited from organizations such as the Texas Rangers, local sheriffs and deputies, and appointees from the Civil Service Register of Railroad Mail Clerks.

The government initially provided the agents a badge and revolver. Recruits furnished their own horse and saddle, but Washington supplied oats and hay for the horses and a $1,680 annual salary for the agents. The agents did not have uniforms until 1928.

In 1932 the Border Patrol was placed under the authority of two directors, one in charge of the Mexican border office in El Paso, the other in charge of the Canadian border office in Detroit. Liquor smuggling was a major concern because it too often accompanied alien smuggling. The majority of the Border Patrol was assigned to the Canadian border. Smuggling was commonplace along the Mexican border also. Whiskey bootleggers avoided the bridges and slipped their forbidden cargo across the Rio Grande by way of pack mules along the Southern border.

Early Border Patrol Academy President Franklin D. Roosevelt combined the Bureau of Immigration and the Bureau of Naturalization into the Immigration and Naturalization Service in 1933. The first Border Patrol Academy opened as a training school at Camp Chigas, El Paso, in December 1934. Thirty-four trainees attended classes in marksmanship and horsemanship.Border Patrol Agent on Horseback

Although horses remained the transportation of choice for many years, by 1935, the Border Patrol began using motorized vehicles with radios. Rugged terrain and the need for quick, quiet transportation guaranteed that horses would remain essential transportation to the Patrol even to the present day.

Border Patrol Agents Pictured with Aircraft The workload and accomplishments of the Patrol remained fairly constant until 1940, when the Immigration Service was moved from the Department of Labor to the Department of Justice. An additional 712 agents and 57 auxiliary

personnel brought the force to 1,531 officers. Over 1,400 people were employed by the Border Patrol in law enforcement and civilian positions by the end of WWII. During the war, the Patrol provided tighter control of the border, manned alien detention camps, guarded diplomats, and assisted the U.S. Coast Guard in searching for Axis saboteurs. Aircraft proved extremely effective and became an integral part of operations.

Legislation in 1952 codified and carried forward the essential elements of the 1917 and 1924 acts. The same year, Border Patrol agents were first permitted to board and search a conveyance for illegal immigrants anywhere in the United States. For the first time, illegal entrants traveling within the country were subject to arrest.

As illegal immigration continued along the Mexican border, sixty-two Canadian border units were transferred south for a large-scale repatriation effort. In 1952, the government airlifted 52,000 illegal immigrants back to the Mexican interior. The program was terminated after it ran out of funds during its first year. The Mexican government offered train rides into the Mexican interior for nationals being returned from the San Antonio and Los Angeles districts, but this program was halted after only five months. Throughout the early 1950s, a special taskforce of 800 Border Patrol agents was assigned by the United States Attorney General to round up and ship home thousands of illegal immigrants in southern California. The task force moved to the lower Rio Grande valley, then to Chicago and other interior cities. The Border Patrol began expelling adult Mexican males by boatlift from Port Isabel, Texas, to Vera Cruz in September 1954. The project was discontinued two years later after nearly 50,000 illegal aliens had been returned home. Various other flights, train trips, and bus trips originated along the border and terminated in the Mexican interior. In spite of the major successes in repatriation, many deportees simply turned around and recrossed the seriously undermanned border. Repatriation programs proved extremely expensive and were phased out primarily because of cost.

Significant numbers of illegal aliens began entering the U.S. on private aircraft in the late 1950s. In cooperation with other federal services, the Border Patrol began tracking suspect flights. During the Cuban missile crisis of the early 1960s, Cuban defectors living in Florida flew aircraft out over the ocean in an effort to harass their former homeland. The American government made this harassment illegal, and assigned the Border Patrol to prevent unauthorized flights. The Patrol added 155 officers, but discharged 122 of them when the crisis ended in 1963.

The early 1960s also witnessed aircraft-hijacking attempts and President John F. Kennedy ordered Border Patrol agents to accompany domestic flights to prevent takeovers. The Miami Sector of the Border Patrol coordinated the effort. By that time the business of alien smuggling began to involve drug smuggling also. The Border Patrol assisted other agencies in intercepting illegal drugs from Mexico.

The 1980s and 1990s saw a tremendous increase of illegal migration to America. The Border Patrol responded with increases in manpower and the implementation of modern technology.

Infrared night-vision scopes, seismic sensors, and a modern computer processing system helped the Patrol locate, apprehend, and process those crossing into the U.S. illegally.

In an effort to bring a level of control to the border, Operation "Hold the Line" was established in 1993 in El Paso, and proved an immediate success. Agents and technology were concentrated in specific areas, providing a "show of force" to potential illegal border crossers. The drastic reduction in apprehensions prompted the Border Patrol to undertake a full-scale effort in San Diego, California, which accounted for more than half of illegal entries. Operation "Gatekeeper" was implemented in 1994, and reduced illegal entries in San Diego by more than 75% over the next few years. A defined national strategic plan was introduced alongside Operation Gatekeeper and set out a plan of action for the Border Patrol into the future. With illegal entries at a more manageable level, the Patrol was able to concentrate on other areas, such as establishing anti-smuggling units and search and rescue teams such as BORSTAR. The Border Safety Initiative (BSI) was created in 1998 with a commitment by the Border Patrol and the promised cooperation of the Mexican government.

Homeland security became a primary concern of the nation after the terrorist attacks of September 11, 2001. Border security became a topic of increased interest in Washington. Funding requests and enforcement proposals were reconsidered as lawmakers began reassessing how our nation's borders must be monitored and protected. On March 1, 2003, the Department of Homeland Security (DHS) was established, and the U.S. Border Patrol became part of U.S. Customs and Border Protection, a component of DHS.

The U.S. Border Patrol continues its efforts to control our nation's borders. The 21st century promises to provide enormous leaps in technology that can be applied to border enforcement. The modernization of the Patrol advances at a dizzying rate as new generations of agents develop innovative ways to integrate the contemporary technology into field operations. New and specialized technology is being created within the Border Patrol that holds increasing potential to assist agents in fulfilling the mission of the Patrol. Additionally, cooperation with neighboring countries increases border safety and law enforcement efforts. The future of the U.S. Border Patrol promises to be as exciting and interesting as its past, and will continue to echo the motto that agents have lived by since 1924. Honor First.

(Link: https://www.cbp.gov/border-security/along-us-borders/history)

Centers for Disease Control and Prevention

On July 1, 1946, the Communicable Disease Center (CDC) settled into the old offices of Malaria Control in War Areas (MCWA), located on the sixth floor of the Volunteer Building on Peachtree Street in Atlanta, Georgia, with a satellite campus in Chamblee, Georgia. Its primary mission was simple yet highly challenging: field investigation, training, and control of communicable diseases. Launched with a modest budget and fewer than 400 employees, most of whom were engineers and entomologists, the agency encouraged its staff to broaden their work within public health. In 1947, CDC made a token payment of $10 to Emory University for 15 acres of land on Clifton Road in Atlanta where CDC headquarters is located today. Field stations and laboratories were expanded and diversified, and employee training became an immediate task. The new institution would expand to include all communicable diseases, and would be the servant of the states, providing practical help whenever called.

Malaria Control in War Areas (MCWA), the predecessor to CDC, was established in 1942 to control malaria around military training bases in the United States. After World War II ended, Dr. Joseph W. Mountin of the U. S. Public Health Service's Bureau of State Services envisioned an agency that could support state and local health units in investigating and controlling communicable disease outbreaks, and in maintaining the nation's health through local measures. Building upon the work of the MCWA, the Communicable Disease Center (CDC) initially focused on fighting malaria, typhus and other infectious diseases. The agency was located in Atlanta, Georgia because the South was the area of the country with the most malaria transmission as well as the headquarters of MCWA. In the next 60 years, minor changes were made to the name (The National Communicable Disease Center, Center for Disease Control, Centers for Disease Control, Centers for Disease Control and Prevention), but the initials, CDC, have remained the same.

Through the years, CDC's work has expanded to include all infectious diseases, noncommunicable diseases, injury and environmental health, health statistics, and occupational health. Reporting today to the Department of Health and Human Services and working in collaboration with public health partners, CDC tirelessly leads the fight against known, new, and emerging diseases around the world. At the same time, CDC leads prevention efforts to reduce the burden of preventable and chronic diseases.

CDC is known as the nation's premiere health promotion, prevention, and preparedness agencies. CDC is globally recognized for conducting research and investigations and for its action-oriented approach. CDC applies research and findings to improve people′s daily lives and responds to health emergencies—something that distinguishes CDC from its peer agencies.

CDC works with states and other partners to provide a system of health surveillance to monitor and prevent disease outbreaks (including bioterrorism), implement disease prevention strategies,

and maintain national health statistics. CDC also guards against international disease transmission, with personnel stationed in more than 50 countries.

CDC is now focusing on becoming a more efficient and impactful agency by focusing on five strategic areas: supporting state and local health departments, improving global health, implementing measures to decrease leading causes of death, strengthening surveillance and epidemiology, and reforming health policies.

(Link: https://www.cdc.gov/about/history/ourstory.htm)

Through CDC's Antibiotic Resistance Solutions Initiative, the agency is transforming the nation's capacity to further detect, respond, and prevent antibiotic-resistant threats across healthcare settings and in communities to protect Americans and save lives. This effort includes work to improve antibiotic use and misuse, a main cause of antibiotic resistance. At least 30 percent of antibiotics prescribed in outpatient settings are unnecessary.

- Emerging resistance. In 2016, five patients in the United States tested positive for the mcr-1 gene, which can make bacteria resistant to the last-ditch antibiotic used to treat resistant infections. In November, 13 cases of Candida auris, a drug-resistant fungus, were reported, adding to the list of emerging threats. CDC is tracking and identifying emerging resistant genes and infections caused by resistant microbes like these. By knowing where and how changes in resistance are occurring, we can inform solutions—like outbreak response, drug development, and diagnostic development—to contain spread and slow resistance.

- Healthcare-associated infections (HAIs). America is doing a better job at preventing HAIs, but more work is needed, especially in preventing antibiotic-resistant infections and their spread. CDC has found that 1-in-7 catheter- and surgery-related HAIs are caused by an antibiotic-resistant bacteria. That number increases to 1-in-4 infections in long-term acute care hospitals—facilities that treat patients who are generally very sick and stay, on average, more than 25 days.

- Resistance in the community. In 2016, CDC expanded the use of whole genome sequencing (WGS) to screen 100% of Salmonella isolates for resistance (currently, only 1-in-20 isolates are tested). Sequencing efforts will protect communities by rapidly identifying drug-resistant foodborne bacteria, like E. coli, Shigella, and Campylobacter, to stop and solve outbreaks and improve prevention. In addition, CDC is developing local and state health department epidemiological and laboratory capacity to more rapidly detect and effectively respond to antibiotic-resistant gonorrhea in high-risk communities. Gonorrhea is one of the most commonly reported infectious diseases in the United States and increasingly resistant to most antibiotics. In April and May 2016, through rapid identification and response, public health efforts stopped further spread of a gonorrhea cluster that showed high levels of resistance and decreased susceptibility to the primary drugs used for treatment.

- More labs identifying antibiotic resistance. CDC provided funding to health departments in July 2016 to help tackle antibiotic resistance and patient safety threats nationwide, including HAIs and "nightmare bacteria" carbapenem-resistant Enterobacteriaceae

(CRE), through the Antibiotic Resistance Laboratory Network (ARLN). State public health laboratories in the ARLN can detect new forms of antibiotic resistance, like mcr-1, and report these findings to CDC to inform response and prevention activities. Additionally, all state public health labs will have enhanced CRE testing capabilities.

•Timely antibiotic resistance data. CDC released the Antibiotic Resistance Patient Safety Atlas web app in 2016 that provides indicators for the types of resistance most common in individual states and regions. It allows users to look up antibiotic resistance patterns in HAIs by state and region. This expands on the public access to antibiotic resistance data. In 2015, CDC introduced NARMS Now: Human Data, an interactive tool that shows how antibiotic resistance has changed over the past 20 years for four bacteria transmitted commonly through food. In 2016, for the first time, NARMS Annual Human Isolates Surveillance Report includes human WGS data of resistant Salmonella infections.

•Antibiotic resistance research. In 2016, CDC awarded funds to support applied research at five academic medical centers as part of a patient safety effort known as Prevention Epicenters Program. The new funding more than doubles previous awards and expands and extends the Prevention Epicenters program to 2020. CDC also awarded funds for new approaches to combat antibiotic resistance. Research will include how microorganisms naturally present in the human body (referred to as a person's microbiome) can be used to predict and prevent infections caused by antibiotic-resistant organisms. This research will work to identify effective public health approaches that protect people, their microbiomes, and the effectiveness of antibiotics.

•Global efforts. Under the Global Health Security Agenda, CDC is engaging 17 countries to support and measure progress toward strengthening laboratories and to develop action plans to establish or strengthen laboratory surveillance networks. To fight drug-resistant tuberculosis (TB)—now the leading infectious disease killer worldwide—CDC is developing innovative strategies to find, cure, and prevent TB, including multidrug-resistant TB, and working with highest burden countries of origin for TB among foreign-born U.S. residents to strengthen surveillance and laboratory systems. CDC is also working with partners from the Transatlantic Taskforce for Antimicrobial Resistance and the World Health Organization to develop a portal for rapid global communication of antibiotic resistance findings requiring international attention.

CDC in the 21st Century

•On the cutting edge of health security – confronting global disease threats through advanced computing and lab analysis of huge amounts of data to quickly find solutions.

•Putting science into action – tracking disease and finding out what is making people sick and the most effective ways to prevent it.

•Helping medical care – bringing new knowledge to individual health care and community health to save more lives and reduce waste.

•Fighting diseases before they reach our borders – detecting and confronting new germs and diseases around the globe to increase our national security.

•Nurturing public health - building on our significant contribution to have strong, well-resourced public health leaders and capabilities at national, state and local levels to protect Americans from health threats.

Pledge to the American People

1. Be a diligent steward of the funds entrusted to our agency:

CDC accomplishes agency-wide fiscal accountability and oversight of appropriations, acquisitions, assistance, and financial management of government funds. This aids in CDC's public health mission by ensuring appropriate fiscal stewardship of tax payer dollars.
https://www.cdc.gov/funding/index.html

2. Provide an environment for intellectual and personal growth and integrity:

CDC expects that employees know and follow the fourteen principles of ethical conduct for executive branch personnel. These principles help foster growth for both individual employee and agency wide progress to further public health science, and maintain the public's trust.
https://www.cdc.gov/ethics/index.html

3. Base all public health decisions on the highest quality scientific data that is derived openly and objectively:

CDC ensures its science and research activities, as well as employees, comply with various federal laws, regulations, and policies in order to exercise the highest level of scientific integrity. To "enhance the quality, integrity of and access to CDC science," is one of 4 pillars the Office of the Associate Director of Science at CDC considers a priority and responsibility.
https://www.cdc.gov/od/science/integrity/index.htm

4. Place the benefits to society above the benefits to our institution:

CDC employees are prohibited from participating in any manner that would pose a conflict of interest or appearance of bias. This helps ensure CDC achieves the highest quality of scientific research, and works to protect the nation's health.
https://www.cdc.gov/about/business/business-sector/ethical-considerations.html
https://www.cdc.gov/ethics/resources/topics/conflicts.html

5. Treat all persons with dignity, honesty, and respect:

The Principles of the Ethical Practice of Public Health is intended principally for public and other institutions in the United States that have an explicit public health mission. It contains values and beliefs underlying the code, principles of the ethical practice of public health, and supplemental materials.
https://www.cdc.gov/od/science/integrity/phethics/
https://www.whitehouse.gov/the-press-office/memorandum-heads-executive-departments-and-agencies-3-9-09

The National Weather Service

The National Weather Service has its beginning in the early history of the United States. Weather always has been important to the citizenry of this country, and this was especially true during the 17th and 18th centuries. Weather also was important to many of the Founding Fathers. Colonial leaders who formed the path to independence of our country also were avid weather observers. Thomas Jefferson purchased a thermometer from a local Philadelphia merchant while in town for the adoption of the Declaration of Independence. He also purchased a barometer — one of the only ones in America at the time — a few days later from the same merchant. Incidentally, he noted that the high temperature in Philadelphia, Pa., on July 4, 1776 was 76 degrees. Jefferson made regular observations at Monticello from 1772-78, and participated in taking the first known simultaneous weather observations in America. George Washington also took regular observations; the last weather entry in his diary was made the day before he died.

During the early and mid-1800's, weather observation networks began to grow and expand across the United States. Although most basic meteorological instruments had existed for over 100 years, it was the telegraph that was largely responsible for the advancement of operational meteorology during the 19th century. With the advent of the telegraph, weather observations from distant points could be "rapidly" collected, plotted and analyzed at one location.

Timeline

1849: Smithsonian Institution supplies weather instruments to telegraph companies and establishes extensive observation network. Observations submitted by telegraph to the Smithsonian, where weather maps are created.

By the end of 1849, 150 volunteers throughout the United States were reporting weather observations to the Smithsonian regularly. By 1860, 500 stations were furnishing daily telegraphic weather reports to the Washington Evening Star, and as the network grew, other existing systems were gradually absorbed, including several state weather services.

1860: 500 stations are making regular observations, but work is interrupted by the Civil War.

1869: Telegraph service, instituted in Cincinnati, began collecting weather data and producing weather charts.

The ability to observe and display simultaneously observed weather data, through the use of the telegraph, quickly led to initial efforts toward the next logical advancement, the forecasting of weather. However, the ability to observe and forecast weather over much of the country, required considerable structure and organization, which could be provided through a government agency.

1870: A Joint Congressional Resolution requiring the Secretary of War "to provide for taking meteorological observations at the military stations in the interior of the continent, and at other points in the States and Territories...and for giving notice on the northern lakes and on the seacoast, by magnetic telegraph and marine signals, of the approach and force of storms" was introduced. Congress passed the resolution and on February 9, 1870, President Ulysses S. Grant signed it into law. A new national weather service had been born within the U.S. Army Signal Service's Division of Telegrams and Reports for the Benefit of Commerce that would affect the daily lives of most of the citizens of the United States through its forecasts and warnings for years to come.

1870-1880: Gen. Albert J. Myer serves as chief signal officer, directing the new weather service.

1880: Upon the death of Gen. Myer, Gen. William Babcock Hazen takes over as chief signal officer. He serves until his death in 1887.

1887: Upon the death of Gen. Hazen, Maj. Gen. Adolphus Greely takes over as chief signal officer. He serves until his death in 1891.

May 30, 1889: An earthen dam breaks near Johnstown, Pennsylvania. The flood kills 2,209 people and wrecks 1,880 homes and businesses.

October 1, 1890: The weather service is first identified as a civilian agency when Congress, at the request of President Benjamin Harrison, passes an act transferring the meteorological responsibilities of the Signal Service to the newly-created U.S. Weather Bureau in the Department of Agriculture.

1891: The secretary of agriculture directs R.G. Dyrenforth to carry out rain-making experiments by setting off explosions from balloons in the air.

Weather Bureau becomes responsible for issuing flood warnings to the public; Telegraphic reports of stages of rivers were made at 26 places on the Mississippi and its tributaries, the Savannah and Potomac Rivers.

1894: William Eddy, using five kites to loft a self-recording thermometer, makes first observations of temperatures aloft.

1895: Secretary of Agriculture J. Sterling Morton appoints Professor Willis Luther Moore chief of the Weather Bureau. Moore served until his resignation in 1913.

1898: President William McKinley orders the Weather Bureau to establish a hurricane warning network in the West Indies.

1900: Cable exchange of weather warnings and other weather information begins with Europe.

September, 1900: A devastating hurricane strikes Galveston, Texas, killing more than 6,000 people. The wife of the Galveston Official-in-Charge Isaac Cline and one Weather Bureau employee and his wife are killed in the associated flooding. The Weather Bureau forecasts the storm four days earlier, but not the high tide.

1901: Official three-day forecasts begin for the North Atlantic.

At the Weather Bureau Conference in Milwaukee, Wis., Chief Willis Moore observed the Post Office Department was delivering slips of paper with daily forecasts, frost and cold-wave warnings, to everyone's door with the mail. The one disadvantage to the system was the mail carriers started their routes about 7:00 a.m. and that day's forecast was not issued until 10:00 a.m., so the previous night's forecasts were used.

1902: The Marconi Company begins broadcasting Weather Bureau forecasts by wireless telegraphy to Cunard Line steamers.

The Weather Bureau begins collecting flood damage statistics nationally.

1903: Weather sensitive historic events: United States and Panama sign the Canal Treaty; the first automobile trip across the United States is completed from San Francisco to New York City; The Wright brothers make first powered airplane flight at Kill Devil Hill, N.C., after consultation with the Weather Bureau several years earlier for a suitable location to conduct their experiments.

1904: The government begins using airplanes to conduct upper air atmospheric research.

1905: The SS New York transmits the first wireless weather report received on ship at sea.

1907: Weather sensitive historic event: Round-the-world cruise of U.S. "Great White Fleet" including 16 battleships and 12,000 men.

1909: The Weather Bureau begins its program of free-rising balloon observations.

1910: Weather Bureau begins issuing generalized weekly forecasts for agricultural planning; its River and Flood Division begins assessment of water available each season for irrigating the West.

1911: The first transcontinental airplane flight, from New York City to Pasadena, Calif., by C.P. Rogers, in 87 hours and 4 minutes, air time, over a period of 18 days.

1912: As a result of the Titanic disaster, an international ice patrol is established, conducted by the Coast Guard; first fire weather forecast issued.

1913: Professor Charles F. Marvin serves as the new chief of the Weather Bureau, replacing Professor Moore. Marvin serves until his retirement in 1934.

1914: An aerological section is established within the Weather Bureau to meet growing needs of aviation; first daily radiotelegraphy broadcast of agricultural forecasts by the University of North Dakota.

1916: A Fire Weather Service is established, with all district forecast centers authorized to issue fire weather forecasts.

The Weather Bureau's fire district forecast center started at Medford, Oregon.

1917: Norwegian meteorologists begin experimenting with air mass analysis techniques which will revolutionize the practice of meteorology.

1918: The Weather Bureau begins issuing bulletins and forecasts for domestic military flights and for new air mail routes.

1919: Navy Aerological Service established on a permanent basis.

1920: Meteorologists form a professional organization, the American Meteorological Society, which is still active today.

1921: The University of Wisconsin makes a radiotelephone broadcast of weather forecasts, the first successful use of the new medium for weather advisories.

1922: Histories of 500 river stations completed.

1926: The Air Commerce Act directs the Weather Bureau to provide for weather services to civilian aviation; fire weather service formally inaugurated when Congress provides funds for seven fire weather districts.

1927: The Weather Bureau establishes a West Coast prototype for an Airways Meteorological Service.

1928: The teletype replaces telegraph and telephone service as the primary method for communicating weather information.

1931: The Weather Bureau begins regular 5:00 a.m. EST aircraft observations at Chicago, Cleveland, Dallas and Omaha, at altitudes reaching 16,000 feet. This program spells the demise of "kite stations."

1933: A science advisory group apprizes President Franklin D. Roosevelt that the work of the volunteer Cooperative Observer Program is one of the most extraordinary services ever developed, netting the public more benefits per dollar expended than any other government service in the world. By 2010 the network encompasses more than 11,000 stations.

1934: Dr. Willis L. Gregg is named chief of the Weather Bureau, replacing Professor Marvin. He served as chief until his death in 1938.

The Weather Bureau establishes an Air Mass Analysis Section; 1934-37 "Dust Bowl" drought in southern plains causes severe economic damage.

1935: A hurricane warning service is established.

The Smithsonian Institution begins making long-range weather forecasts based on solar cycles; floating automatic weather instruments mounted on buoys begin collecting marine weather data.

1936: The Hoover Dam is completed, a weather sensitive engineering feat.

1937: First official Weather Bureau radio meteorograph, or radiosonde sounding made at East Boston, Mass. This program spells the end for aircraft soundings since balloons average only 50,000 feet altitude. Twelve pilots die flying weather missions.

January flood on the Ohio River is the greatest ever experienced, with Ohio River levels exceeding all previous. Cincinnati's 80 foot crest and Louisville's 81.4 foot crest have never been exceeded. Seventy percent of Louisville under water, 175,000 of its residents flee their homes; the entire city of Paducah, Kentucky, (population 40,000) is evacuated.

1938: President Franklin D. Roosevelt appoints Dr. Francis W. Reichelderfer chief of the Weather Bureau. He served as head of the nation’s weather service for a quarter century — longer than anyone before or since — until his retirement in 1963.

1939: The Weather Bureau initiates automatic telephone weather service in New York City; radio meteorgraphs, or radiosondes, replace all military and Weather Bureau aircraft observations.

1940: The Weather Bureau is transferred to the Department of Commerce.

Both the Army and Navy establish weather centers.

President Roosevelt orders Coast Guard to man ocean weather stations.

1941: Dr. Helmut Landsberg, the "Father of Climatology," writes the first edition of his elementary textbook entitled, Physical Climatology.

Two women are listed among the ranks of observers and forecasters in the Weather Bureau.

1942: A Central Analysis Center, forerunner of the National Meteorological Center, is created to prepare and distribute master analyses of upper atmosphere; Joint Chiefs of Staff establish a Joint Meteorological Committee to coordinate wartime civilian and military weather activities.

The Navy gives the Weather Bureau 25 surplus aircraft radars to be modified for ground meteorological use, marking the start of a weather radar system in the U.S. Navy aerologists play key role as U.S. carrier-based Navy planes decimate Japanese fleet in mid-Pacific Battle of Midway Island in early June 1942, turning point in World War II.

A cooperative thunderstorm research effort is undertaken by the Weather Bureau, military services, and the University of Chicago.

1944: The decision to invade Normandy on June 6 was based on weather forecasts, which indicated the correct combination of tides and winds.

1945: More than 900 women are employed by the Weather Bureau as observers and forecasters, as a result of filling positions of men during World War II.

1946: The U.S. Weather Bureau selects Cincinnati, Ohio and Kansas City as locations for the nation's first hydrologist-staffed River Forecast Center. Eventually, 13 RFCs would be established to serve the United States.

1948: USAF Air Weather Service meteorologists issue first tornado warnings from Tinker Air Force Base.

Princeton's Institute for Advanced Studies begins research into use of a computer for weather forecasting.

Chicago Weather Bureau office demonstrates use of facsimile for map transmission.

Truck-mounted campers first used as mobile forecast stations in major forest fires.

1950: The Weather Bureau begins issuing 30-day weather outlooks; authorizes release of "tornado alerts" to the public.

1951: The Severe Weather Warning Center — forerunner of the National Severe Storms Center — begins operation at Tinker Air Force Base, in Oklahoma.

World Meteorological Organization established by the U.N. Bureau Chief Riechelderfer elected its first head; Bureau's New Orleans data tabulation unit moves to Asheville, N.C., to become the National Weather Records Center and later the National Climatic Data Center.

1952: The Weather Bureau organizes Severe Local Storms forecasting Unit in Washington, D.C., and begins issuing tornado forecasts.

1954: The Weather Bureau, Navy, Air Force, MIT's Institute for Advanced Study, and the University of Chicago form a Joint Numerical Weather Prediction Unit in Suitland, Maryland. This will become a twice daily routine in 1955, using an IBM 701.

The first radar specifically designed for meteorological use, the AN/CPS-9, is unveiled by the Air Weather Service, USAF.

1955: Hurricane Diane floods the Northeast resulting in 187 deaths.

Regularly-scheduled operational computer forecasts begun by the Joint Numerical Forecast Unit. The Weather Bureau becomes a pioneer civilian user of computers along with the Census Bureau in Commerce; Bureau begins development of Barotropic model, a first for numerical predictions.

1956: The Bureau initiates a National Hurricane Research Project.

1957-58: The International Geophysical year provides first concerted world wide sharing of meteorological research data.

Weather Bureau Chief Dr. Francis Reichelderfer accepts a proposal by Dr. James Brantly of Cornell Aeronautical Laboratories to modify surplus Navy Doppler radars for severe storms observation--the first endeavor to measure motion of precipitation particles by radar.

1958: Weather-related scientific event: Explorer I is launched into space by an Army Redstone Rocket from Cape Canaveral. This satellite discovers the Van Allen Radiation Belts.

The National Meteorological Center is established; the first commercial jet passenger flight from New York to Miami by National Airlines.

1959: Major weather-related scientific event: The Army launches Vanguard II from Cape Canaveral, carrying two photocell units to measure sunlight reflected from clouds, demonstrating feasibility of a weather satellite.

The Weather Bureau's first WSR-57 weather surveillance radar is commissioned at the Miami Hurricane Forecast Center.

The Naval Aerological Service becomes the Naval Weather Service.

The Thomas Jefferson and John Campanius Holm awards are created by the Weather Bureau to honor volunteer observers for unusual and outstanding accomplishments in the field of meteorological observations. Both awards still exist today.

1960: The world's first weather satellite, the polar-orbiting TIROS I, successfully launches from the Air Force Missile Test Center at Cape Canaveral, Fla., on April 1. This was followed by the launch of TIROS II on November 11. The Weather Bureau and NASA invite scientists from 21 nations to participate in the analysis of weather data gathered by TIROS II. In cooperation with the Department of Health, Education and Welfare, Weather Bureau meteorologists issue first advisories on air pollution potential over the eastern United States.

1961: President Kennedy, in his State of the Union address, invites all nations to join the United States in developing an International Weather Prediction Program.

The Weather Bureau assumes full responsibility for severe weather forecasting, establishing the National Severe Storms Center in Kansas City; special training begins for Federal Aviation Authority employees to equip them to brief pilots as part of a joint FAA-Bureau program; to USAF Air Weather Service issues first official forecast of clear air turbulence; scientists from 27 countries attend NASA Weather Bureau sponsored international workshop on technique to interpret weather satellite data.

1963: Dr. Robert M. White succeeds Dr. Reichelderfer as chief of the Weather Bureau. He serves in this position until 1965, when he becomes the head of the newly-formed Environmental Science Services Administration, or ESSA, the forerunner of NOAA.

The polar-orbiting weather satellite TIROS III is launched with automatic picture transmission capability, eventually to provide continuous cloud images to over 100 nations.

1964: The secretary of commerce establishes the office for the Federal Coordinator for Meteorology.

The National Severe Storms Laboratory is established in Norman, Oklahoma.

The American Meteorological Society writes to the Taiwanese Ambassador to the U.S., deploring treatment accorded Mr. Kenneth T.C. Cheng, head of the Taiwan Weather Service, who had been indicted for an incorrect typhoon forecast. The AMS points out that if forecasters were indicted for an incorrect forecast there could soon be a total lack of forecasters. (Minutes of the AMS Council, October 3-4, 1964).

1965: The Environmental Science Services Administration, or ESSA, is created in the Department of Commerce, incorporating the Weather Bureau and several other agencies; Weather Bureau Chief Dr. Robert White is appointed as its first administrator.

Dr. George Cressman is named chief of the Weather Bureau and becomes the first director of the National Weather Service, when the agency is renamed in 1970. He serves until his retirement in 1979.

1966: Weather officials from 25 nations meet in London for the First International Clean Air Congress.

The National Meteorological Center introduces a computer numerical model capable of making sea level predictions as accurate as those made manually.

1967: Responsibility for issuing air pollution advisories is assigned to the Weather Bureau's National Meteorological Center.

Fire weather forecasts are extended to cover contiguous U.S.

1969: Weather-related historic event: Neil Armstrong, Commander of spacecraft Apollo 11, becomes first man to set foot on the moon.

1970: The Environmental Science Services Administration (ESSA) becomes the National Oceanic and Atmospheric Administration (NOAA), with Dr. Robert White assuming the role of its first administrator.

The U.S. Weather Bureau becomes the National Weather Service.

1972: Rainfall from Hurricane Agnes floods the East Coast, killing 105 people.

A devastating flash flood in the Black Hills of South Dakota kills 237 people.

1973: The National Weather Service purchases its second generation radar, the WSR-74.

1975: The first "hurricane hunter" Geostationary Operational Environmental Satellite (GOES) is launched into orbit; these satellites with their early and close tracking of hurricanes, greatly reduce the loss of life from such storms.

1976: Real-time operational forecasts and warnings using Doppler radar are evaluated by the Joint Doppler Operational Project, spawning a third Generation Weather Radar (WSR-88D).

The Big Thompson Canyon Flood in Colorado kills 139 people.

1977: The success of weather satellites results in the elimination of the last U.S. weather observation ship; real time access to satellite data by national centers advances hurricane, marine and coastal storm forecasts.

1979: Dr. Richard Hallgren is appointed director of the National Weather Services. He serves until his retirement in 1988, when he becomes executive director of the American Meteorological Society.

1979: A Nested Grid Model (NGM) becomes operational; a Global Data Assimilation System (GDAS) developed.

AFOS Computer system is deployed, connecting all Weather Service forecast offices. AFOS is the most ambitious computer network created at the time, setting records for volume of data and number of entry points while supporting full range of word processing and other capabilities.

1980: Mt. St. Helens, a dormant volcano in Washington state, erupts; weather satellites spot eruption and alert FAA.

"Dean of the Cooperative Weather Observers," Mr. Edward H. Stoll of Elwood, Nebraska, is honored at the nation's Capitol and meets President Jimmy Carter at the White House. Mr. Stoll had faithfully served as a Cooperative Observer since October 10, 1905.

Various "hot weather topics" become of general public concern, such as the El Niño/Southern Oscillation as a factor in U.S. weather, and global warming.

1981: Weather-related science event: World's first reusable space shuttle, Columbia, is launched, completing its mission three days later.

1982: El Chicon volcano erupts in Mexico; NOAA polar weather satellites track movement of its cloud around the earth as a possible global climate impact.

1984: The National Weather Service provides special forecast for the Olympic Games in Los Angeles.

Weather-related event: First successful solo balloon crossing of the Atlantic by pilot Joe Kittinger, 83 hours and 45 minutes.

September 11-13: The first official Air Transportable Mobile Unit (ATMU) dispatches to the Shasta-Trinity National Forest wildfire. The ATMU is dispatched by plane from Redding, California while the forecaster is flying from Sacramento, Calif. These mobile fire units are deployed nationwide in 1987. ATMUs permit NWS forecasters to set up remote observing and forecasting offices anywhere in the world within hours of a request for on-site fire weather support.

1985: Harvard's Blue Hill Observatory celebrates 100 years of continuous monitoring of the atmosphere.

President Ronald Reagan awards Dr. Helmet Landsberg the National Medal of Science, the most prestigious service award a civilian can receive.

1986: The Voyager aircraft completes the first nonstop, non-refueled flight around the world in nine days with assistance of continuous weather support from retired, volunteer and current NWS employees.

1988: The National Weather Service operates several remote forecast operations in Yellowstone National Park to assist in fighting week-long wildfire.

The National Hurricane Center provides continuous advisories and early forecast on movement of giant hurricane Gilbert to assist Caribbean and U.S. coastal areas with evacuation plans.

1987-88 major drought experienced by nation's midsection, with some of lowest river levels in 50 years observed on the Mississippi.

Dr. Richard Hallgren retires as NWS director to become executive director of the American Meteorological Society.

Dr. Elbert W. "Joe" Friday, Jr. becomes director of the National Weather Service. He serves until 1997.

1989: U.S. assists clean-up efforts following San Francisco Earthquake with mobile forecast unit.

Miami Hurricane Center plays central role in limiting loss of life from gigantic Hurricane Hugo which causes $7 billion damage.

Eight year national plan for the modernization and restructuring of the National Weather Service is announced. The massive $4.5 billion overhaul of the agency from will last a decade and change the way the agency operates, resulting in improved capabilities to protect lives and livelihoods. To modernize its operations, the NWS developed and implemented five major technologies:

Automated Surface Observing System, or ASOS, which replaced manual weather observations

Next Generation Weather Radar, or NEXRAD, a network of advanced Doppler radars that contributed to increased lead times in predicting severe weather events, such as tornadoes, hail, and flash floods

A new series of satellites that provided improved, all-weather data for longer-term forecasting

Advanced computer systems that increased the computing power to support National Centers tenfold

Advanced Weather Interactive Processing System, or AWIPS, which allowed communication among forecast offices and distribution of centrally collected data as well as offered field forecasters access to the data provided by the other new technologies

1990: The National Meteorological Center procures and installs a supercomputer, the Cray Y-MP8, to run higher resolution and more sophisticated numerical weather production models.

The National Weather Service exercises the contract option for full scale production with the Unisys Corporation for production of 165 Next General Radar (NEXRAD) units and more than 300 display subsystems. The explosive growth of technology led to the development of NEXRAD, a joint project of the Departments of Commerce, Transportation and Defense to meet their common radar needs.

1991: Automated Surface Observing System contract, a key element in NOAA's modernization of its NWS, awarded to AAI Corporation of Hunt Valley, Md., on February 19.

1992: Twenty-two of the planned 115 modernized Weather Forecast Offices (WFO) were built or remodeled during the year, with 12 NWS radars installed. Of a programmed 1,700 ASOS units, 151 were installed and 13 commissioned.

Hurricane Iniki struck the Hawaiian island of Kauai killing seven and Hurricane Andrew devastates Florida and Louisiana.

1993: "Year of Water" — record floods inundate the Midwest; the National Weather Service earns the U.S. Commerce Department's highest award, a gold medal, for performance during the flooding.

Advanced Weather Interactive Processing System (AWIPS) contract awarded to PRC, Inc., of McLean, Va. AWIPS will rapidly analyze weather data and distribute it nationwide.

The 100th new Doppler weather radar is installed.

The blizzard of '93 deposited enough precipitation in one weekend to drastically change the spring hydrologic outlook.

An international training facility was dedicated at the National Meteorological Center.

Two scientists develop a new method of processing atmospheric data needed for global forecasting and five meteorologists from Alaska design a state-of-the-art computer network used to improve forecasting capabilities in Alaska.

1994: Dr. Elbert W. Friday, Jr. was honored as Federal Executive of the Year.

Vice President Al Gore launches NOAA Weather Radio initiative to increase transmitter coverage to 95 percent of the population.

The new Cray C90 supercomputer was dedicated providing for faster and more accurate forecasts.

NOAA and the EPA launched an experimental Ultraviolet (UV) Exposure Index.

1995: The National Tsunami Hazard Mitigation Program (NTHMP), the nation’s community-focused program to improve tsunami mitigation and preparedness of at-risk areas within the United States and its territories is created.

NWS launches Internet Service Interactive Weather Information Network—IWIN.

1996: NWS provides forecasting support for Atlanta Olympics.

Scientist make the first dual Doppler tornado intercept. A team of government and university scientists and student volunteers for the first time observe a tornado close-up with dual high-resolution Doppler radars, providing a never-before-seen two-dimensional view of a full-blown

tornado. The team scanned the slow moving twister for 10 minutes with the two Doppler radars mounted on flatbed trucks.

1997: Nationwide WSR-88D radar network is fully deployed.

Red River of the North Flood causes 11 deaths and $3.5 billion in damages. Subsequent evaluation of NWS services led to service improvement in hydrologic products including explicit consideration of uncertainty in forecasting.

Dr. Robert S. Winokur appointed acting director of the National Weather Service.

1998: Brig. Gen. John J. "Jack" Kelly, Jr., USAF (ret.), appointed director of the National Weather Service. He serves until his retirement in 2004.

2000: The Advanced Weather Interactive Processing System (AWIPS), a high-tech, interactive weather computer and communications system has been installed in 152 National Oceanic and Atmospheric Administration sites across the country. AWIPS provides significant improvements in weather- and flood-related services.

With the completion of AWIPS the formal end of the NWS Modernization and associated restructuring is declared, completing a decade-long effort to revamp weather services and significantly improve weather forecasting.

StormReady®, a new national program designed to better prepare for tornadoes and other types of severe weather, is unveiled. By 2011 there are more than 1,800 StormReady sites in 48 states, as well as Puerto Rico and Guam.

2001: President George W. Bush issues the first presidential proclamation for the National Hurricane Preparedness week.

TsunamiReady™, a national program designed to help cities, towns, counties, universities and other large sites in coastal areas reduce the potential for disastrous tsunami-related consequences, is unveiled. By 2011 there are more than 90 TsunamiReady sites in 10 states, Puerto Rico and Guam and the Northern Mariana Islands.

2002: NWS partners with university and private sector meteorologists to provide accurate forecasts for athletes and spectators at 2002 Olympic Winter Games in Salt Lake City, Utah.

2003: National Academy of Sciences report, "Fair Weather: Effective Partnerships in Weather and Climate Services" released to advise NOAA on approaches it should take to improve relationships with private sector.

2004: Brig. Gen. David L. Johnson, USAF (ret.), appointed director of the National Weather Service. He serves until his retirement in 2007.

NOAA policy on Partnerships in the Provision of Environmental Information is adopted in response to the 2003 Academy of Science study.

Tsunami readiness in the United States is strengthened after a magnitude 9.0 earthquake strikes in the Indian Ocean and tsunami waves kill over 230, 000 people around the Indian Ocean basin.

Congress passes the Tsunami Warning and Education Act authorizing NOAA to strengthen its tsunami detection, forecast, warning and mitigation programs.

2005: Hurricane Katrina makes landfall in southeast Louisiana on August 29, resulting in devastation and loss of life of historic proportions along the Gulf Coast. Katrina results in an estimated $125 billion in damage/costs — making it the most expensive natural disaster in U.S. history — and approximately 1,833 deaths — the highest U.S. total since the 1928 major hurricane in southern Florida.

Hurricane Rita hits the Texas-Louisiana border coastal region in September, creating significant storm surge and wind damage along the coast, and some inland flooding. Prior to landfall, Rita reached the third lowest pressure (897 mb) ever recorded in the Atlantic basin. Rita results in an estimated $16.0 billion in damage/costs and 119 deaths — mostly indirect.

Hurricane Wilma hits southwest Florida in October, resulting in strong, damaging winds and major flooding across southeastern Florida. Prior to landfall, as a Category 5 hurricane, Wilma sets a record for the lowest pressure (882 mb) ever recorded in the Atlantic basin. Wilma results in an estimated $16.0 billion in damages/costs and 35 deaths.

Overall, the 2005 Atlantic hurricane season set several records. There were 28 named storms (storms with sustained winds of at least 39 miles per hour). In addition, there were an unprecedented 14 hurricanes, of which seven were major hurricanes (Category 3 or better on the Saffir-Simpson Scale). Three category 5 storms (sustained winds of 156 miles per hour or more) formed in the Atlantic Basin for the first time in a single season (Katrina, Rita, and Wilma). Four major hurricanes and three tropical storms made landfall in the U.S., with an eighth storm (Ophelia) brushed brushing the North Carolina coast.

2006: Severe flooding occurs over portions of the Northeast in June due to several weeks of heavy rainfall, affecting six states and resulting in over $1 billion in damage/costs and at least 20 deaths.

December 13 marks the 30th anniversary of the nation's only federally funded weather telecast. Known as “Alaska Weather,” the program, broadcast live across the state every night at 5:30 p.m. from KAKM-TV, the PBS station in Anchorage, is a partnership between public broadcasting and NWS.

2007: For nearly two weeks in January, overnight temperatures over a good portion of California dipped into the 20's, destroying numerous agricultural crops; with citrus, berry, and vegetable crops most affected. An estimated $14 billion in damage/costs are reported.

NWS activated its newest weather and climate supercomputers — IBM machines capable of processing 14 trillion calculations per second at maximum performance and ingest more than 240 million global observations daily. The new computers increased the computational might used for the nation's climate and weather forecasts by 320 percent.

NWS implements the Enhanced Fujita scale to rate tornadoes, replacing the original Fujita Scale. The EF scale will continue to rate tornadoes on a scale from zero to five, but ranges in wind speed will be more accurate with the improved rating scale.

In response to customer demand for climate information at the local level, NOAA's National Weather Service has launched a new local three-month temperature outlook product for the continental United States.

NWS teams with 2007 Iditarod sled dog race to showcase for four newly designated StormReady® communities. For the first time, mushers raced through four trail communities — Anchorage, Wasilla, McGrath, and Nome — carrying the StormReady distinction.

NWS implements a new Heat/Health Watch Warning System in the cities of San Francisco, Oakland, and San Jose, as well as surrounding Bay communities of Redwood City, Palo Alto, Sunnyvale, Santa Clara, Gilroy, Fremont, Alameda, Berkeley, Richmond, and El Cerrito. They join 18 other metropolitan areas in the United States using this system as guidance for issuing excessive heat watches, excessive heat warnings and heat advisories.

Dr. John L. "Jack" Hayes appointed director of the National Weather Service.

NWS transitions from county-based to new storm-based warnings, issuing more geographically specific warnings for tornadoes, severe thunderstorms, floods, and marine hazards.

A series of three storms affected the Pacific Northwest between December 1 and 3, 2007, resulting in 11 fatalities and an estimated $1 billion in damage.

2008: The United States tsunami detection array is complete with 39 Dart stations positioned around the Pacific basin, western Atlantic and Caribbean Sea.

Hurricane Ike makes landfall in Texas, as the largest (in size) Atlantic hurricane on record, causing considerable storm surge in coastal Texas and significant wind and flooding damage in 10 other states. Estimated damage exceeds $27 billion. Ike results in 112 deaths.

The Super Tuesday Tornado Outbreak of February 5-6 results in 57 fatalities in four states. It is the second largest February tornado outbreak since 1950 in terms of fatalities and the largest since May 31, 1985.

Nenana, Alaska, Receives Nation's 1,000th NOAA Weather Radio Transmitter.

2009: Drought conditions occurred during much of the year across parts of the Southwest, Great Plains, and southern Texas causing an estimated $5 billion in agricultural losses in numerous states. The largest agriculture losses occurred in Texas and California.

NWS completed implementation of the final phase of a nine-year, $180 million contract by installing the newest generation of IBM supercomputers for weather and climate prediction. The new supercomputers, based on IBM Power 575 Systems, are four times faster than the previous system, with the ability to make 69.7 trillion calculations per second. Higher computation speed allows meteorologists to rapidly refine and update severe weather forecasts as dangerous weather develops and threatens U.S. communities.

Devastating floods affect the southeast U.S., as copious moisture drawn into the region from the Atlantic and Gulf of Mexico produced showers and thunderstorms from September 18-23. Rainfall amounts across the region totaled 5-7 inches, with locally higher amounts near 20 inches. The northern two-thirds of Georgia, Alabama, and southeastern Tennessee were hardest hit with the southeasterly low-level winds providing favorable upslope flow. Flash flood and areal flooding were widespread, with 11 fatalities were directly attributed to this flooding.

2010: NWS unveiled a new hurricane scale this season called the Saffir-Simpson Hurricane Wind Scale. The scale keeps the same wind speed ranges as the original Saffir-Simpson Scale for each of the five hurricane categories, but no longer ties specific storm surge and flooding effects to each category.

GOES-15, launched on March 4, 2010, from Cape Canaveral, Fla., joining three other NOAA operational GOES spacecraft that help the agency's forecasters track life-threatening weather.

Record-breaking rain struck Kentucky and the Tennessee Valley on May 1-2, resulting in widespread, devastating flash flooding across much of western and middle Tennessee, including the greater Nashville area. The heavy rain also resulted in unprecedented flooding along the Cumberland River and its tributaries. There were 26 fatalities directly attributed to the flooding, 11 of which were in greater Nashville. Preliminary estimates of property damage were in excess of $2 in greater Nashville alone.

2011: 2011 saw a record-breaking number of 10 separate weather, water and climate disasters, each with an economic loss of $1 billion or more. These included the Groundhog Day Blizzard of Jan 29-Feb 3, several devastating tornado outbreaks — including the one that produced an EF-5 tornado struck Joplin, Mo., which resulted in at least 160 deaths, making it the deadliest single tornado to strike the U.S. since modern tornado record keeping began in 1950 — and river flooding along the Mississippi, Missouri and Souris Rivers.

NWS launches a comprehensive initiative to build a Weather-Ready Nation to make America safer by saving more lives and protecting livelihoods as communities across the country become increasingly vulnerable to severe weather events, such as tornado outbreaks, intense heat waves, flooding, active hurricane seasons, and solar storms that threaten electrical and communication systems. The initiative is focused on helping people make better decisions with better information and will require not only improvements in the science and technology of the modernization era, but also the integration of social sciences and the improvements in partnership with other government agencies, researchers, and the private sector.

NWS ranks in the top 15 percent of federal agencies for customer satisfaction, according to a new public survey. With an essential public safety mission, the agency rated 84 on a scale of 0 to 100 – a score considered "excellent" by independent survey firm Claes Fornell International (CFI).

Hurricane Irene makes landfall over coastal N.C. before moving northward along the Mid-Atlantic Coast and causing torrential rainfall and flooding across the Northeast. Wind damage in coastal N.C., Va., and Md. was moderate with considerable damage resulting from falling trees and power lines, while flooding caused extensive flood damage across N.J., N.Y., and VT. More than seven million homes and businesses lost power during the storm. Numerous tornadoes were also reported in several states further adding to the damage. Over $7.0 billion in damages/costs; and at least 45 deaths were reported.

NWS began upgrading its network of Doppler radars throughout the nation with dual-polarization (Dual-Pol) capability, resulting in better estimation of heavy rainfall amounts in flooding events, improved hail detection in severe thunderstorms, and improved classification of precipitation types. Dual-Pol radar has the potential to improve forecasts and warnings and reduce the impact of hazardous weather on transportation.

NWS began using a sophisticated forecast model that substantially improves predictions of space weather impacts on Earth. Better forecasts offer additional protection for people and the technology-based infrastructure we use daily.

The National Research Council completes the first phase of a study on the NWS Modernization and Associated Restructuring effort of the 1990s. The NRC report concludes that the framework left in place from the modernization of the 1990s "allows and encourages the continued evolution of National Weather Service technology, and to some extent the workforce composition and culture."

2013: Dr. Louis W. Uccellini becomes the 16th Director of the National Weather Service

(Link: http://www.weather.gov/timeline)

Federal Deposit Insurance Corporation (FDIC)

The Federal Deposit Insurance Corporation (FDIC) preserves and promotes public confidence in the U.S. financial system by insuring deposits in banks and thrift institutions for at least $250,000; by identifying, monitoring and addressing risks to the deposit insurance funds; and by limiting the effect on the economy and the financial system when a bank or thrift institution fails.

An independent agency of the federal government, the FDIC was created in 1933 in response to the thousands of bank failures that occurred in the 1920s and early 1930s. Since the start of FDIC insurance on January 1, 1934, no depositor has lost a single cent of insured funds as a result of a failure.

The FDIC receives no Congressional appropriations - it is funded by premiums that banks and thrift institutions pay for deposit insurance coverage and from earnings on investments in U.S. Treasury securities. The FDIC insures approximately $9 trillion of deposits in U.S. banks and thrifts - deposits in virtually every bank and thrift in the country.

The standard insurance amount is $250,000 per depositor, per insured bank, for each account ownership category. The FDIC's Electronic Deposit Insurance Estimator can help you determine if you have adequate deposit insurance for your accounts.

The FDIC insures deposits only. It does not insure securities, mutual funds or similar types of investments that banks and thrift institutions may offer. (Deposit Insurance: What's Covered distinguishes between what is and is not protected by FDIC insurance.)

The FDIC directly examines and supervises more than 4,500 banks and savings banks for operational safety and soundness, more than half of the institutions in the banking system. Banks can be chartered by the states or by the federal government. Banks chartered by states also have the choice of whether to join the Federal Reserve System. The FDIC is the primary federal regulator of banks that are chartered by the states that do not join the Federal Reserve System. In addition, the FDIC is the back-up supervisor for the remaining insured banks and thrift institutions.

The FDIC also examines banks for compliance with consumer protection laws, including the Fair Credit Billing Act, the Fair Credit Reporting Act, the Truth-In-Lending Act, and the Fair Debt Collection Practices Act, to name a few. Finally, the FDIC examines banks for compliance with the Community Reinvestment Act (CRA) which requires banks to help meet the credit needs of the communities they were chartered to serve.

To protect insured depositors, the FDIC responds immediately when a bank or thrift institution fails. Institutions generally are closed by their chartering authority - the state regulator, or the Office of the Comptroller of the Currency. The FDIC has several options for resolving institution failures, but the one most used is to sell deposits and loans of the failed institution to another institution. Customers of the failed institution automatically become customers of the assuming institution. Most of the time, the transition is seamless from the customer's point of view.

The FDIC employs more than 7,000 people. It is headquartered in Washington, D.C., but conducts much of its business in six regional offices, and in field offices around the country.

The FDIC is managed by a five-person Board of Directors, all of whom are appointed by the President and confirmed by the Senate, with no more than three being from the same political party.

Historical Timeline

The Mid-1700's

The colonies have no banking system and no common currency. European banks and governments are meeting capital needs. While foreign coins and some colonial paper money is in circulation, bartering is a common means of payment.

1782

The Bank of North America

The Bank of North America, established by the Continental Congress, becomes the first chartered bank in the U.S.

1784

The state of New York charters The Bank of New York.

1791

The U.S. charters the First Bank of the United States—the government's first attempt at a central bank. The bank has a 20-year charter, which is not renewed. In 1811, the bank is bankrolled by New York merchants and chartered by the state of New York. Today the bank is known as Citibank.

1799

A group of New York investors establish the Bank of Manhattan to fund construction of a water supply for New York City. The state of New York charters the bank.

The Early 1800s

The Industrial Revolution produces a new class of merchants and manufacturers. The need for capital increases. Between 1815-1819, the U.S. economy booms and more banks exist. As a developing country, the U.S. has a reputation for not repaying loans, and many European banks refuse to lend to the U.S. government.

1809

The Farmer's Exchange Bank in Glouchester, Rhode Island, fails—the first U.S. bank failure.

1816

The Second Bank of the United States, which is the U.S. government's second attempt at a central bank, is established. Its 20-year charter is not renewed, and the U.S. does not have another central bank until 1913.

1819

More than 420 banks exist in the U.S. All of them printing bank notes and making loans. Early 1800's

The Panic of 1819

The Second Bank of the United States calls its loans, a panic sweeps the U.S., and many banks fail.

1820

Approximately 300 banks operate in the U.S.

1829

New York is the first state to adopt an insurance plan for bank obligations. Between 1829 and 1866, five other states adopt similar plans.

1831

Comly Rich house, Philadelphia. First U.S. home financed by a savings and loan association. Rich, a maker of combs, received a loan in 1831 from the Oxford Provident Building Association, the nation's first savings institution.

1837

With the demise of the Second Bank of the United States in 1837, only state-chartered banks exist. During this period, known as the Free Banking Era, state chartering standards often are not very stringent, and many new banks are formed. Large numbers of them will fail. The era ends with the passage of the National Currency Act in 1863.

The Panic of 1837

The mid-1830s witness an economic boom, characterized by inflation and speculation in public land sales and road and canal projects. The speculation is fueled, in part, by the following three policies:

The removal of federal funds from the Bank of the United States and from other banks.

A distribution of the federal surplus from these banks to state banks.

A requirement that specie (gold or silver coin) be used to buy public lands (which leads to falling land sales and specie shortages).

The pressure on many banks increases and a lack of confidence in the state banks abounds. The resulting bank panic in 1837 causes many banks to fail over several years. This panic is followed by a sharp depression, tied to a general downturn in the business cycle that lasts until 1841.

1843

The first issue of the Bank Note Reporter is published. This weekly report on the value and validity of the bank notes was the most respected of many such publications that merchants relied upon to evaluate the reliability of currency.

The Mid-1800s

European banks finance 30,000 miles of railway tracks in the U.S.—a new phase in high finance with the potential for large returns. Railroads become the driving force of the economy.

The railroads open up the West and provide demand for the new steel industry, which makes new commerce and new industries possible. New cities emerge along the railways, and commerce organizes around these cities. Speculators seek capital for their new ventures.

By 1914, there are 253,000 miles of railroad in the U.S.

Prior to the Civil War, the U.S. has a loose system of finance and banking. As the nation grows, it demands a more mature financial system. The National Banking Acts of 1863, 1864, and 1865 are a significant movement in that direction.

With the demise of the Second Bank of the United States in 1837, only state-chartered banks exist. During this period, known as the Free Banking Era, state chartering standards often are not very stringent, and many new banks are formed. Large numbers of them will fail. The era ends with the passage of the National Currency Act in 1863.

The Panic of The Panic of 1857

The economy is weak because of overbuilding of railroads and overextension by banks to finance construction. Several hundred banks fail. Most banks suspend specie payments, such as gold coins. Unemployment increases.

1859

Oil is discovered in Titusville, Pennsylvania.

1860

There are 1,562 state banks.

1862

7,000 different bank notes are in circulation; 5,500 fraudulent bank notes are in circulation.

1863

The Civil War destroys the South's economy; the North's economy flourishes.

President Abraham Lincoln composes the final Emancipation Proclamation on January 1, 1863.
Civil War

National Currency Act of 1863

(Became known as the National Banking Act in 1864)

This act: Establishes a national currency: the dollar.

Establishes national banks, which creates the dual banking system with national and state chartered banks—the only such system in the world.

National Banking Act of 1864

This act: Establishes the Office of the Comptroller of the Currency (OCC)

Initiates a system of bank examinations.

National Banking Act of 1865

This act, intent on getting rid of bank notes, levies a tax on state currency. The tax goes from 2 percent to 10 percent, resulting in the use of checks.

1865

There are 349 state banks. There are 1,294 national banks.

1869

The Golden Spike connects the Central Pacific and Union Pacific railroads, commemorating the completion of the first transcontinental railroad in the world.

The Panic of 1873

During and immediately after the Civil War, the U.S. economy booms. This boom is accompanied by reckless financial expansion and speculation. Between 1867 and 1873, more than 30,000 miles of new railroads are constructed at an enormous capital cost.

When a large financier of railroads goes into bankruptcy, a financial panic occurs in the Northeast. Banks, brokerages, and businesses fail, stock prices collapse, consumer prices decline, and unemployment increases. Economic instability lasts for more than 20 years.

1870s

Entrepreneurs begin to turn to local banks and wealthy individuals for venture capital through New York City banks.

John D. Rockefeller, William Rockefeller, and partners create Standard Oil, the largest oil refining business in the world.

Standard Oil is the first great American trust. The founding partners borrow much of their capital from the large New York bankers. Exxon Mobil is the largest of Standard Oil's descendants.

1877

The Chase National Bank is chartered.

1885

There are 1,015 state banks and 2,689 national banks.United States Congress seal

The Panic of 1893

During the late 1880s and early 1890s, severe weaknesses begin to appear in the economy, especially in the overbuilt, debt-ridden railroad industry, which has become the major sector of the U.S. economy. A railroad declares bankruptcy, and a panic sweeps through the securities markets. Railroad expansion halts.

The Panic triggers the collapse of railroad stock. The railways shift from thousands of small investors to two money trusts.

The economy slows, manufacturing and agricultural sectors operate at a fraction of capacity, and foreign investment declines.

The result: banking panic. For the first time, bank runs occur outside of New York City, in Kansas City, Louisville, Milwaukee, Denver, and Portland.

1886

Starting in 1886 and continuing until 1933, Congress considers 150 proposals to create deposit insurance plans.

The Late 1800s

Standard Oil becomes financially self-sufficient. It has more cash than any corporation in history and no longer needs Wall Street. The Standard Oil Trust has become a huge bank within an industry. It finances itself against competition and provides venture capital to other entrepreneurs on high-class collateral. The Standard Oil Trust "bank" becomes a natural, spontaneous offshoot of successful commerce.

U.S. railroads desperately need capital, and British investors respond, lending massive amounts of money.

President William McKinley launches the trust-busting era. He appoints several senators to the U.S. Industrial Commission. The Commission's report lays the groundwork for President Theodore Roosevelt's later attacks on the trusts' industrial titans.

Industry generates surplus capital. New York banks emerge from foreign dependence on capital. New York City emerges as an international banking center.

Financial panics and bank runs are common. The U.S. economy does not have stabilizers to provide liquidity, such as a central bank and deposit insurance.

1890

There are 2,250 state banks and 3,484 national banks.

1892

There are 3,733 state banks and 3,759 national banks.

1895

Deposits for First National City Bank (Citibank) reach $31 million—a 158 percent increase from $12 million in 1893.

1896

The Dow Jones Industrial Average becomes a universal yardstick by which investors judge the stock market's performance.

11,500 commercial banks operate in the U.S.

1898

Spanish-American War

The Spanish-American War begins. The U.S. gains control of the former colonies of Spain in the Caribbean and Pacific. Much of the Caribbean's economy is already in U.S. hands, and most of its trade is with the U.S.

The war increases the business and earnings of American railroads, increases the output of American factories, and stimulates industry and commerce.

The Early 1900s

Interstate banking and branching is restricted (this is referred to as unit banking), but some states begin to allow branching at a state level.

1900

Checks become a more common means of payment.

Ownership of capital stock increases as common people become more affluent, have surplus capital, and have access to the stock market.

The Gold Standard Act of 1900

This act stabilizes the economy, establishes gold as the only standard for redeeming paper money, and prohibits the exchange of silver for gold.

The Panic of 1901

First National City Bank (Citibank), led by James Stillman and William Rockefeller, with Standard Oil money, buys $115 million of Northern Pacific Railroad's stock and triggers a stock market panic. Thousands of small investors are wiped out.

1901

Theodore Roosevelt becomes president and continues former President William McKinley's trust-busting efforts.

John Pierpont Morgan creates U.S. Steel, the first billion-dollar corporation. U.S. Steel is a giant integrated steel trust. Capitalized with $1.4 billion at a time when the capitalization of all American manufacturing is $9 billion, U.S. Steel elevates both Wall Street and U.S. industry to a new plateau. When it comes time for J.P. Morgan to sell U.S. Steel, approximately 300 underwriters dispose of the securities.

1902

President Theodore Roosevelt announces an antitrust suit against J.P. Morgan's railroad holding company.J.P. Morgan cartoon

1904

The Bank of Italy is chartered in California. In 1927, the bank is renamed Bank of America of California.

1905

There are 9,018 state banks and 5,664 national banks.

1906

The stock market experiences a speculative boom.

The Early 1900s

Between 1907 and 1917, eight states adopt an insurance plan for bank obligations.

The term robber baron was revived in the 19th century in the U.S. as a pejorative term describing businessman who allegedly used unscrupulous tactics in their business operations and on the stock market to amass huge personal fortunes. Many of their massive businesses controlled a large majority of all activity in the respective industry, often arrived at through predatory pricing schemes that are now illegal.

Some of the most notable robber barons were J.P. Morgan (banking), John D. Rockefeller (oil), and Andrew Carnegie (steel).

The Panic of 1907

The panic is brief but significant in its financial implications. In March 1907, the New York Stock Exchange goes into drastic decline. The subsequent public panic leads to runs on banks. These runs lead to large-scale liquidations of call loans, or loans used to finance stock market purchases. As a result, thousands of businesses fail.

The panic exposes weaknesses in the financial system, particularly the inability of banks to acquire currency during emergencies.

Depositors "run" on the Knickerbocker Bank. J.P. Morgan and James Stillman of First National City Bank (Citibank) act as a "central bank," providing liquidity to the Knickerbocker Bank. Their efforts stop the run.

President Theodore Roosevelt provides Morgan with $25 million in government funds to use to control the panic. Morgan, acting as a one-man central bank, decides which firms will fail and which firms will survive. He organizes a rescue of banks and trusts, averting a shutdown of the New York Stock Exchange, and engineers a financial bailout of New York City.

Morgan is a strong adherent of a central bank like the Bank of England, which is controlled by private bankers. European bankers, who had lent money to the U.S., back away from that role.

1909

President William Taft begins trust-busting proceedings, carrying on with the intent of Presidents William McKinley and Theodore Roosevelt.

Taft establishes the National Monetary Commission. The commission's goal is to propose a banking reform plan. None of the commission's proposals make it to the floor of Congress. The report is comprehensive. Congress takes years to study its proposals for a central bank and other banking issues.

Moody's Investors Service provides its first credit rating on railroad bonds.

1910

Sears and Roebuck offers lines of credit.

1911

The Supreme Court rules that Standard Oil, which has 64 percent market share, is a monopoly and orders it to be broken up, resulting in the creation of 37 new companies.

Congressman Arsène Pujo, Chairman of the House Committee on Banking and Currency, investigates the influence of money trusts over U.S. finance and commerce. The hearings reveal the scope of control exerted by J.P. Morgan and First National City Bank (Citibank). With 341 directorships on 112 companies, these companies controlled $22 billion in resources.

25,000 commercial banks are operating in the U.S.

The Federal Reserve Act of 1913

This act passes in an attempt to bring stability to financial markets after the Panic of 1907 exposes weakness in an uncontrolled system.

This act:

Establishes the Federal Reserve System, commonly known as the Fed, as the central bank—the nation's third central bank. The bank has a 20-year charter.(The McFadden Act of 1927 gives the FRB permanence.) Federal Reserve seal

Gives the Fed authority to regulate and supervise state-member banks

Allows state-member banks and national banks to borrow money from FRB when they are experiencing liquidity problems

Allows national banks to open branches overseas

Moderately expands national banking powers by permitting real estate loans, time and savings deposits, trust services, and foreign branches.

1913

Congressman Carter Glass sponsors legislation to create a central bank.

World War I: 1914-1918

Congressman Carter Glass

World War I is a major stimulus to the U.S. economy. The economy booms between 1914 and 1918. The financial havoc reigning in Europe presents U.S. banks with new demands for services. The U.S. economy is the largest in the world in terms of GNP. The financial center of the world shifts from London to Wall Street. After the war, the economy flourishes.

1915

There are 18,227 state banks and 7,598 national banks.

1919

First National City Bank (Citibank) has $1 billion in assets.

The Roaring '20s

Woman from the 1920s With their newfound wealth, people buy in record numbers everything from houses to cars to appliances.

Assembly lines increase production.

Department stores give credit cards to their wealthier customers. Metal charge-plates are introduced. Oil companies offer courtesy cards for charging gas.

Banks offer installment loans, mortgages, and loans to stock market speculators on 90 percent margins.

There are no insider-trading laws.

Factory The dramatic expansion in the financial sector introduces new corporate securities issues, especially in common and preferred stock. The stock market undergoes an extraordinary, unprecedented expansion and is caught in a speculative euphoria between 1925 and 1929.

About 10 percent of U.S. households own stock. Today, about 50 percent own stock, largely because of 401(k)s.

Wealthy Americans look for ways and means to invest their surplus funds.

The middle class considers retail brokerage houses and securities affiliates of commercial banks safe investments.

Stock Certificate Banks unveil new securities affiliates with names almost identical to their own to wipe away the distinction between saving and speculating.

First National City Bank (Citibank) and its stock subsidiary, the National City Company, have 2,000 brokers selling stocks.

National City Company repackages bad Latin American loans from its affiliated bank and sells them to unknowing investors as new securities. This is one of the deals that initiate the Glass-Steagall Act of 1933.

Banks speculate on land development.

The financial environment of the Roaring '20s creates new financial products. First National City Bank (Citibank) creates instruments that include the unit trust (known today as the mutual fund) and compound-interest savings accounts.

The McFadden Act of 1927

This act:

Establishes the Federal Reserve Board (FRB) as a permanent central bank

Prohibits interstate banking. This prohibition is not repealed until 1994

Authorizes hometown branches for national banks, if allowed by the state. This authorization helps to put national banks on par with state banks. National banks still cannot branch outside of the city in which they are headquartered

Gives national banks the authority to buy and sell marketable debt obligations.

1929

There are 17,583 state banks and 8,150 national banks.

Black Tuesday: Stock Market Crash of 1929

October 29, 1929

Black Tuesday The crash of the U.S. stock market heralds the beginning of the Great Depression. The Federal Reserve keeps money tight. The Dow drops 25 percent in two days and 30 percent in one week. Public confidence in government and business plummets.

President Herbert Hoover tells Congress the worst effects of the crash are over.

Important Dates Leading Up To and Following the Crash of 1929

August 22, 1922: The Dow tops 100 for the first time, closing the day at 100.75.

Between 1922 and 1929, the Dow rises 400 percent.

September 3, 1929: The Dow hits its pre-crash high, closing at 381.17.

October 24, 1929 (Black Thursday): The crash begins. A record-breaking 13 million shares are traded, indicating panic. That afternoon, 5 banks pony up about $20 million each to buy stock and restore confidence in the market. It seems to work. There's a late rally, and the Dow closes at 299.47.

October 25, 1929: The rally continues, and the Dow closes at 301.22

October 28, 1929 (Black Monday): The rally ends. Panic selling resumes. The Dow drops almost 40 points (nearly 13 percent) to close 260.64.

October 29, 1929 (Black Tuesday): The Dow drops another 30 points

(nearly 12 percent) to close at 230.07 on trading of 16 million shares. July 8, 1932: The Dow closes at 41.22, an 89 percent drop from its pre-crash high.

November 23, 1954: 25 years after the crash, the Dow reaches its pre-crash high again,closing at 382.74.

The Great Depression: 1929-1939

Great Depression scene The Great Depression, a worldwide economic downturn, hits the U.S. in 1929 and lasts until about 1939. It is the longest and most severe depression experienced by the U.S. Its social and cultural effects are staggering. Many banks fail, many because they have made loans to stock market speculators that are never repaid.

As the Depression eases into a national emergency, reaching its height between 1932 and 1933, the U.S. government establishes several agencies as a means for discharging new and emergency functions. The FDIC is one of these agencies.

Other effects include the following: Industrial production declines 47 percent, GDP falls 30 percent, wholesale price index declines (deflation) 33 percent, unemployment exceeds 20 percent.

In many ways, our lives are still governed by legislation spawned by the crash and the Depression.

President Franklin D. Roosevelt initiates a legislative agenda, known as the New Deal, for rescuing the U.S. from the Great Depression. The major initiatives of the New Deal: stock market reform, aid to the unemployed, and strengthening the banking system.

Hawley-Smoot Tariff Act of 1930

This act steeply raises U.S. tariffs on imports. Foreign governments retaliate, which prevents free trade and lengthens the depression.

Reconstruction Finance Corporation (RFC) Act of 1932

This act is President Herbert Hoover's attempt to stimulate the economy. The act:

Provides loans to banks, savings banks, building and loan associations, credit banks, industrial banks, mutual savings banks, and life insurance companies

Makes loans to railroads, many of which cannot meet their bonded indebtedness payments.

Federal Home Loan Bank Act of 1932

This act:

Establishes the Federal Home Loan Bank Board (FHLBB), which charters and supervises federal S&Ls

Establishes the Federal Home Loan Banks (FHLBs)

Gives the FHLBB authority to regulate and supervise S&Ls

Gives FHLBs the authority to lend to S&Ls to finance home mortgages.

1932

The height of the Depression: 1932 to 1933.

The Senate Banking Committee opens an investigation into the abuses that triggered the Great Depression.

The interest rate on U.S. Treasury bills goes negative because investors are willing to take a loss if they know that their money is safe.

Unemployment is 25 percent.

National income is 50 percent below that of 1929.

Stock market is 75 percent below its 1929 high.

Bank runs and closings are common.

In the absence of money, barter becomes a form of exchange.

Franklin D. Roosevelt On July 2, 1932, Franklin D. Roosevelt accepts the Democratic nomination for president, offering "a new deal for the American people."

1933

New Deal mural Franklin D. Roosevelt becomes president.

On March 6, 1933, President Franklin D. Roosevelt declares a banking holiday and temporarily closes all U.S. banks.

Money supply is 40 percent lower than 1929.

Approximately 4,000 commercial banks fail.

1,700 S&Ls fail.

Foreclosures clog banks and S&Ls with unsaleable assets.

The FDIC examines nearly 8,000 state-chartered banks that are not members of the Federal Reserve Board (FRB).

Emergency Banking Act of 1933

This act, which President Roosevelt signs on March 9, 1933:

Legalizes President Roosevelt's decision to declare a national banking holiday

Permits the Office of the Comptroller of the Currency (OCC) to appoint a conservator with powers of receivership over all national banks threatened with suspension.

The Securities Act of 1933

This act requires strong disclosure statements of publicly held corporations, which deprives bankers of their monopoly on information.

The Banking Act of 1933

President Roosevelt signs this act on June 16, 1933, to raise the confidence of the U.S. public in the banking system by alleviating the disruptions caused by bank failures and bank runs.

From 1929 to 1933, bank failures resulted in losses to depositors of about $1.3 billion. Before the FDIC was in operation, large-scale cash demands of fearful depositors often struck the fatal blow to banks that might otherwise have survived.

Since the FDIC went into operation, bank runs no longer constitute a threat to the banking industry.

This act:

Establishes the FDIC as a temporary government corporation

Gives the FDIC authority to provide deposit insurance to banks

FDIC Member seal Gives the FDIC the authority to regulate and supervise state nonmember banks

Funds the FDIC with initial loans of $289 million through the U.S. Treasury and the FRB

Extends federal oversight to all commercial banks for the first time

Separates commercial and investment banking (Glass-Steagall Act)

Prohibits banks from paying interest on checking accounts

Allows national banks to branch statewide, if allowed by state law.

1934

The FDIC deposit insurance goes into temporary effect on January 1, 1934. The deposit insurance level is $2,500.

On July 1, 1934, the FDIC deposit insurance increases the coverage level to $5,000.

The FDIC employs 3,476 people, most of whom are bank examiners.

Nine FDIC-insured banks fail.

Each state in the nation has an FDIC regional office.

The prime rate emerges as the rate that banks use in lending to their biggest and best corporate customers. Demand for business loans is nil, and banks charge as little as one-third of 1 percent interest. Between 1934 and 1947, the prime rises to approximately 1.5 percent.

The FDIC fun has a balance of $292 million.

Mrs. Lydia Lobsiger On July 5, 1934, Mrs. Lydia Lobsiger received the first federal deposit insurance disbursement, following the failure of the Fond Du Lac State Bank in East Peoria, Illinois.

The National Housing Act of 1934

This act creates the Federal Savings and Loan Insurance Corporation (FSLIC), which is administered by the Federal Home Loan Bank Board (FHLBB). FSLIC insures S&L deposits until 1989, when the FDIC assumes responsibility for the bankrupt fund as the Savings Association Insurance Fund (SAIF).

The Securities Exchange Act of 1934

This act:

Creates the Securities and Exchange Commission (SEC)

Requires any company whose securities are traded on national exchanges or over-the-counter to file registration applications and annual reports with the SEC that detail the economic health of the company.

1935

There are 9,027 state banks and 4,692 national banks. The approximate number of banks remains consistent until the 1980s.

26 FDIC-insured banks fail.

The Federal Credit Union Act of 1935

This act establishes federal credit unions.

The Banking Act of 1935

This act:

Establishes the FDIC as a permanent agency of the government

Provides for permanent deposit insurance and maintains it at the $5,000 level.

1936

Fort Knox

The U.S. stock of gold bullion is so imposing that the U.S. Treasury Department constructs an "impregnable" storage fortress to hold the metal at Fort Knox, Kentucky.

1937

Cash and U.S. government securities make up 52 percent of banks' assets—more than double the proportion held in 1929.

77 FDIC-insured banks fail.

1938

74 FDIC-insured banks with $69.5 million in assets fail.

1940

The economy is on the upswing. Banks become more profitable. Most economists think that the Depression has ended.

World War II: 1941-1945

World War IIThe war has a dramatic effect on the U.S. economy. Between 1941 and 1945, federal spending totals more that $321 billion, twice as much as all federal spending from 1789 to 1941. The GNP grows by more than 75 percent between 1941 and 1945. The U.S. government becomes the leading sector of the economy.

1944

The Bretton Woods system of international economic management establishes the International Bank for Reconstruction and Development, later divided into the World Bank and Bank for International Settlements, and the International Monetary Fund. The system establishes rules for commerce and financial relations among the world's major industrial states.

1945

Total bank assets are double the $91 billion at the end of 1941.

Large-scale war financing of the federal government is the primary factor contributing to the rise of banking assets.

U.S. government securities account for 57 percent of total banking assets.

Between 1942 and 1945, only 28 FDIC-insured banks fail.

Victory in Europe Day: May 8.

Victory over Japan: August 15.

1946

Scene from It's A Wonderful Life Frank Capra directs the movie It's A Wonderful Life, a post-war tale of an S&L manager who struggles against a greedy banker and his own self-doubting nature.

The FDIC insurance fund has a balance of more than $1 billion.

Post-war economic and housing boom begins.

1948

The FDIC repays the initial funding loans of $289 million to the U.S. Treasury and the Federal Reserve Board.

President Harry Truman signs the Marshall Plan into law to reconstruct Europe following World War II. The U.S. contributes more than $13 billion of economic and technical assistance. This provides a boost to the U.S. economy because Europe purchases U.S. goods and services.

1949

Diner's Club card

Diner's Club is established, providing a universal, third-party credit card.

People begin carrying credit cards in their wallets.

The 1950s

The U.S. is absorbed with its apprehension of Soviet power, represented by a fear of its atomic power, space program, and espionage. The Korean War and the Cold War are intertwined. The build-up of the military industrial complex helps the U.S. economy. By the 1980s, 7 percent of the U.S. GNP is devoted to defense spending.

1950

The FDIC deposit insurance coverage level increases from $5,000 to $10,000.

The FDIC's insurance fund has a balance of $1.2 billion.

The Federal Deposit Insurance Act of 1950

This act:

Revises and consolidates earlier FDIC legislation into one act

Increases the insurance limit from $5,000 to $10,000

Gives the FDIC the authority to lend to any insured bank in danger of closing, if the operation of the bank is essential to the local community

Authorizes the FDIC to examine national and state-member banks to determine their insurance risk.

Bank Holding Company Act of 1956

This act:

Prohibits bank holding companies headquartered in one state from acquiring a bank in another state unless that other state's laws authorize the acquisition—thus leaving control of bank holding companies to the states. In 1975, Maine is the first state to allow entry of out-of-state bank holding companies

Prohibits the expansion of bank holding companies into "non-banking" activities through affiliates.

1958

Bank of America launches a credit card in California. In 1966, the bank licenses Bank Americard, and in 1976, it changes its name to Visa.

American Express launches a national credit card.

Chase Manhattan Bank issues a credit card but withdraws from the industry in 1962.

The 1960s

U.S. banks lend to less-developed countries that have a need for capital.

The U.S. has a trade deficit.

Europe and Japan, ravaged by the war, start to recover, and their markets expand.

U.S. banks create offshore funding centers to avoid taxes.

Inflation rises.

Most banks' bookkeeping systems are manual. Computer systems are rudimentary.

President Lyndon B. Johnson increases government spending, which is tied to the Great Society Programs and the Vietnam War.

The ATM's predecessor is installed into bank lobbies so that customers can pay utility bills without waiting in line for a teller.

1960

Only five banks are listed on any stock exchange.

The FDIC's insurance fund has a balance of more than $2 billion.

The FDIC has about 3,000 employees: 2,500 bank examiners and 40 bank liquidators.

Four FDIC-insured banks fail.

1966

The FDIC deposit insurance limit increases to $15,000.

Interest rates increase.

The U.S. government borrows to cover war debt.

The U.S. experiences economic growth because of the war economy.

1967

Citibank creates a venture capital group with $5 million.

The first automatic cash dispenser is installed in a Barclays Bank near London.

Several U.S. banks license MasterCharge (MasterCard).

1968

Hoping to control the trade deficit, President Johnson attempts to control imports to the U.S.

Congress charters The Federal National Mortgage Association (Fannie Mae) to assist low-, moderate-, and middle-income families to buy homes.

1969

ATM The FDIC deposit insurance limit increases from $15,000 to $20,000.

ATMs are installed in New York's Chemical Bank; the installation marks the first use of magnetically encoded plastic.

Wall Street processes about 20 million shares a day, with difficulty. Today, Wall Street processes several billion shares per day.

The 1970s

Photo of cars waiting in line for gas

Rapidly rising oil prices create an inflationary spiral, which raises interest rates. Recession follows. The expensive Vietnam War ends. Automation takes hold.

Outstanding debt from less-developed countries increases from $29 billion to $327 billion during the decade.

1970

Automated Clearing House Interbank Payment System, a private company, is created to clear checks.

Congress charters the Federal Home Loan Mortgage Association (Freddie Mac) to provide capital to finance U.S. housing.

Bank Holding Company Amendments (BHCA) of 1970

The BHCA of 1956 left a large loophole with respect to non-bank activities. Growing political concern about the growth of conglomerate enterprises lead to these amendments.

The Bank Holding Company Amendments (BHCA) of 1970:

Require Federal Reserve Board approval for the establishment of a bank holding company

Liberalize non-bank activity restrictions.

1971

President Richard Nixon announces his "New Economic Policy" in an attempt to revive the economy and control inflation. This policy is a major shift from traditional economic policies. To increase demand for U.S. goods in foreign markets, President Nixon devalues the dollar and ends the gold convertibility of the dollar. This devaluation allows the dollar's price to float on world markets.

President Nixon imposes wage and price controls. He presents Congress with legislation to repeal tax on cars, to provide tax credits for business investments, and to reduce individual income tax.

1972

Inflation increases when President Richard Nixon lifts wage-and-price controls.

1973

The 1973 Middle East War occurs. Organization of Petroleum Exporting Countries (OPEC) increases oil prices, decreases oil production, and imposes an oil embargo on the U.S. that generates even higher inflation and a trade deficit.

1974

The oil embargo triggers the 1974-1975 world recession, which exacerbates the less-developed countries' debt burden.

The FDIC deposit insurance limit increases from $20,000 to $40,000 because of inflation.

1975

The Congress holds hearings and expresses concern about the concentration of Third World loans and the threat to the capital position of banks.

Eight of the largest U.S. banks are owed $37 billion. The largest portion of Latin American debt originates from U.S. banks, accounting for 217 percent of total capital and reserves.

Maine becomes the first state to allow the entry of out-of-state bank holding companies.

New York City is on the verge of bankruptcy and asks the federal government for a bailout. President Gerald R. Ford originally refuses, but he changes his mind after the city raises city taxes and cuts programs. The city obtains $2.3 billion in short-term loans from the government.

Home Mortgage Disclosure Act of 1975 (HMDA)

This act:

Encourages banks and S&Ls to lend mortgage money in low-income areas

Requires banks and S&Ls to document their lending practices.

1976

First National City Bank changes its name to Citibank.

Several banks license VISA.

1977

Inflation accelerates when President Jimmy Carter places emphasis on restoring economic growth instead of controlling inflation.

Community Reinvestment Act (CRA) of 1977

This act:

Directs banks and S&Ls to meet the credit needs of their communities, including low-income areas

Requires the FDIC to examine non-member state banks for CRA compliance.

1978

Interest rates on securities surpass the rates that banks and S&Ls can pay.

The International Banking Act of 1978

This act regulates the establishment, operation, and control of foreign banks in the U.S.

Financial Institutions Regulatory and Interest Rate Control Act of 1978

This act:

Establishes Federal Financial Institutions Examination Council (FFIEC), which includes the Federal Reserve Board (FRB), the Office of the Comptroller of Currency (OCC), the FDIC, and the Federal Home Loan Bank Board (FHLBB)

Establishes requirements for bank insider transactions

Establishes standards for electronic fund transfers (EFT)

Provides for the assessment of civil money penalties against banks and individuals. The FFIEC begins operations in 1979.

1979

President Jimmy Carter appoints Paul Volcker to the chairmanship of the Federal Reserve Board (FRB). Inflation is over 13 percent, and Volcker is committed to reducing that figure. Volcker concentrates on controlling the money supply instead of keeping interest rates low. Unemployment reaches 11 percent, and the prime rate reaches 21.5 percent during Volcker's tenure. Volcker is chairman of the FRB until 1987.

The 1980s

Stamp depicting the fall of Berlin Wall

The economy slows because of "stagflation," the economic problem of excess capacity and unemployment coexisting with inflation and no economic growth.

The S&L industry has huge volumes of low, fixed-rate mortgages that were issued in the 1950s and 1960s. The gap between what the S&Ls earn on these mortgages and what S&Ls pay for new deposits erodes the capital of the S&Ls.

In the era of financial deregulation in the 1980s, S&Ls embark on speculative ventures, many of which are in questionable real estate projects. When the real estate market weakens and oil prices fall, many S&Ls go bankrupt. During the 1980s, Federal Savings and Loan Insurance Corporation (FSLIC) capital is depleted.

Most new Lesser Developed Countries (LDC) bank loans cover accrued interest on existing debt and maintain levels of consumption. The new loans are not used for productive investments. Many banks write off the bad loans.

Stock market prices begin a steady climb, and the volume of shares traded increases dramatically. Many of those shares are traded by institutional investors, mutual funds, and large commercial investors.

Securities transactions are increasingly conducted by computers, which are programmed to buy automatically within specified parameters.

The electronic funds transfer (EFT) system is widely implemented.

S&L and bank failures rise because of economic, financial, legislative, and regulatory activities. A series of crises converge in the 1980s, some geographical and some sectoral: mutual savings banks in the Northeast; S&Ls nationally; agricultural banks in the Midwest; oil patch banks in the Southwest; and real estate loans in the Northeast, California, and Florida.

1980

S&L combined net worth (capital) is a negative $18 billion—85 percent of the S&Ls are losing money; 15 percent of S&Ls are broke.

Problems with mutual savings banks begin. Most of these banks are in the Northeast and are supervised and insured by the FDIC.

The FDIC employs 3,644: 2,544 are bank examiners and 460 are bank liquidators.

Ten FDIC-insured banks with $236 million in assets fail.

FDIC's insurance fund has a balance of $11 billion.

The "Big Three" American car manufacturers (Ford, GM, and Chrysler) suffered through the 1970s, as Japanese competitors led by Honda and Toyota outperformed them in quality and price. Chrysler, which lacks the vast cash reserves of GM and Ford, is brought to the brink of bankruptcy by 1980. President Jimmy Carter signs a bill authorizing $1.2 billion in federal loans to save the failing Chrysler Corporation. It is the largest federal bailout to date.

Ford, GM, and Chrysler logos IBM launches its first line of personal computers.

Depository Institutions Deregulation and Monetary Control Act of 1980

This act, which is passed as a response by Congress to get S&Ls out of interest- rate mismatch, is an effort to deregulate S&Ls.

This act:

Begins the process of phasing out Regulation Q—or Reg Q—(the Federal Reserve's regulation that dictates what banks and S&Ls can pay on deposits)

Allows financial institutions to offer negotiable order of withdrawal (NOW) accounts (interest-bearing checking accounts)

Allows S&Ls to offer checking—type accounts

Establishes loan-loss-reserve requirements

Allows S&Ls to issue credit cards

Increases THE FDIC deposit insurance coverage from $40,000 to $100,000.

1981

GDP declines 2 percent.

Mortgage rates reach 21 percent.

Prime rate reaches 21.5 percent—the highest rate ever.

Inflation reaches 14 percent.

From 1981 through 1986, the value of farmland drops by 30 percent.

Oil prices drop.

U.S. oilrig operations drop by 40 percent between December 1981 and July 1982.

Tax Reform Act of 1981

This act, among its many provisions, provides S&Ls with opportunities in real estate lending, and provides tax incentives to encourage real estate investment.

1982

Oil rig Penn Square Bank in Oklahoma City fails with $511 million in assets. The bank had generated billions of dollars in speculative oil and gas exploration loans, many of which are worthless. To support its rapid growth, the bank had sold participations in energy loans to large regional banks, including Continental Illinois ($1 billion) and Chase Manhattan Bank of New York ($212 million).

First quarter, the S&L industry suffers losses of $3.3 billion.

Organization of Petroleum Exporting Countries (OPEC) crude reaches a high of $42 a barrel.

Net worth certificate program provides regulatory capital forbearance to help strengthen ailing mutual savings banks.

Recession of 1982

When President Jimmy Carter leaves office in 1981, the U.S. economy is in desperate circumstances. The major economic problem is external: The Iranian revolution disrupts Iranian oil production and creates a global shortage of petroleum, which drives prices to record highs

After this recession, the economy grows, inflation slows, unemployment and interest rates decline, and the economy appears to be favorable for banking.

Garn-St Germain Depository Institutions Act of 1982 (Garn-St Germain)

This act is an attempt to address the interest rate mismatch, to deregulate S&Ls, and to provide new business opportunities to S&Ls. Prior to this act, S&Ls had to have most of their assets in real estate lending.

This act:

Accelerates the phasing out of interest rate controls (Req Q) from 1984 to 1986.

Allows S&Ls to have up to 50 percent of assets in commercial (development/construction) real estate.

Allows S&Ls to have up to 30 percent of assets in consumer loans, commercial paper, and corporate debt.

Allows S&Ls to use land and other non-cash assets as capital instead of the previously required cash.

Enhances the powers of the FDIC and Federal Savings and Loan Insurance Corporation (FSLIC) to provide aid to troubled institutions, including net worth certificate programs.

Authorizes S&Ls and banks to offer money market deposit accounts.

International Lending Supervision Act of 1983

This act directs all banking regulatory agencies to ensure that all banking institutions maintain adequate capital levels. Failure to do so is made an unsafe and unsound practice.

1983

After 50 years, the FDIC still takes in more in premiums than it loses through failures.

48 FDIC-insured banks fail with $7 billion in assets.

The Office of the Comptroller of the Currency (OCC) issues record numbers of bank charters, and by law, the FDIC must grant deposit insurance to all nationally chartered banks. This policy changes in 1991, with the passage of a new law that requires all banks to apply for deposit insurance independently of the chartering process.

Eight chain banks in Tennessee (totaling $826 million is assets) owned by the Butcher family (Jake and C.H. Butcher, Jr.) fail simultaneously. The Butcher brothers are eventually sent to prison.

1984

Continental Illinois National Bank in Chicago, Illinois, with $34 billion in assets, is the largest bank to ever fail in the FDIC's history. The bank is weakened by its participations in Penn Square energy loans. Continental experiences a high-speed electronic bank run. Bank regulators are faced with a potential run on the bank and provide a $2 billion assistance package.

The FDIC promises to protect all of Continental's depositors and other creditors, regardless of the $100,000 limit on deposit insurance. Continental receives assistance from the FDIC because it is deemed "too big to fail." (In 1997, the estimated cost to the FDIC of resolving Continental was $1.1 billion.)

Continental Illinois National Bank certificate

For the first time, the FDIC spends more on resolving failures than it receives in premiums.

79 FDIC-insured banks with $3 billion in assets fail.

The Federal Home Loan Bank Board (FHLBB) chairman testifies before the House Banking Committee, stating that an S&L crisis is imminent.

The banking regulators individually publish new uniform capital standards.

In response to a 1983 law, banking regulatory agencies set minimum capital requirement standards for individual institutions.

1985

L. William Seidman L. William Seidman becomes the chairman of the FDIC.

120 FDIC-insured banks with $8.7 billion in assets fail—the first time more than 100 banks fail in one year since the FDIC was created.

1986

Real estate investments are less attractive because of overbuilding and the Tax Reform Act of 1986.

A $15 billion attempt to recapitalize Federal Savings and Loan Insurance Corporation (FSLIC) fails in Congress. The next year, Congress authorizes $10.75 billion.

Reg Q, the regulation that dictated what banks and S&Ls can pay in interest, is fully phased out in accordance with the 1980 law.

1,840 mutual funds control $716 billion in stock, bonds, and money market assets.

138 FDIC-insured banks with $7 billion in assets fail.

Tax Reform Act of 1986

This act repeals many of the 1981 tax incentives that were meant to encourage real estate investment.

Competitive Equality Banking Act of 1987 (CEBA)

This act:

Authorizes $10.75 billion to recapitalize Federal Savings and Loan Insurance Corporation (FSLIC) over a three-year period

Grants the FDIC bridge-bank authority

Becomes the first legislation to explicitly state that insured deposits are backed by the full-faith-and-credit of the U.S. government.

1987

Alan Greenspan Alan Greenspan becomes the chairman of the Federal Reserve Board.

Federal Savings and Loan Insurance Corporation (FSLIC) is insolvent by $6 billion.

S&Ls lose $30 million each business day.

FDIC monitors 1,575 problem banks with $385.5 billion in assets. More than 10 percent of banks are on the FDIC's problem list.

The FDIC holds $18.3 billion in its insurance fund—the most ever.

184 FDIC-insured banks with $7 billion in assets fail.

The Dow falls 23 percent in one day (taking 18 months to recover); the Federal Reserve Board floods the economy with money.

Vernon Savings in Dallas, Texas, an FSLIC-insured institution, fails with $1.2 billion in assets (98 percent of its loans are in default).

1988

223 FSLIC-insured S&Ls fail.

200 FDIC-insured banks with combined assets of $35.7 billion fail.

FDIC records a loss for the first time.

Despite growing problems, the banking industry earns record profits of $24.8 billion.

First Republic in Dallas and Houston, Texas, with $31.2 billion in assets, fails. It is the costliest FDIC resolution to date at $3.7 billion.

First City Bank in Houston, Texas, with $12.3 billion in assets, fails. The bank receives a $900 million loan from FDIC. (It later closes in 1992.)

The central bank governors of the Group of Ten (G-10) countries adopt the Basel Capital Accord, known as Basel I Accord, which provides procedures for factoring on- and off-balance-sheet risks into the supervisory assessment of capital adequacy.

1989

FDIC has about 8,000 employees.

206 FDIC-insured banks with $29.2 billion in assets fail—the most in FDIC history. Two-thirds of these banks are in Texas.

Lincoln Savings and Loan in Irvine, California, with $5.5 billion in assets, fails. Charles Keating, the owner, is investigated for violating investment rules. There are allegations of political influence.

Texas' second largest bank, MCorp in Dallas, Texas, with $15 billion in assets, fails.

The Berlin Wall comes down. The end of the Cold War results in a so-called peace dividend for the U.S. economy.

Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA)

FIRREA is the most important banking law since the Great Depression when the FDIC was created. FIRREA is the beginning of statutory attempts to re-regulate the banking and S&L industry. This act authorizes the use of taxpayer money to resolve S&L failures.

This act:

Abolishes the Federal Savings and Loan Insurance Corporation (FSLIC), which has provided deposit insurance to S&Ls since 1934

Creates two insurance funds: the Savings Association Insurance Fund (SAIF) and the Bank Insurance Fund (BIF)—both of which are administered by the FDIC

Establishes the Resolution Trust Corporation (RTC) as a temporary agency to resolve S&L failures from August 9, 1989, to July 1, 1995

Provides funding for the RTC: $30 billion from the sale of bonds, $18 billion from the U.S. Treasury, and $2 billion from the Federal Home Loan Bank Board (FHLBB)

Replaces the FHLBB with the Office of Thrift Supervision (OTS) to regulate and supervise S&Ls

Gives the FDIC back-up supervisory authority over S&Ls

Increases the FDIC's Board of Directors to five members from three by adding a vice chairman position and the director of the newly formed OTS.

The 1990s

The economy displays less volatility in growth, unemployment, and inflation than in previous decades. This volatility leads some economists to prematurely hail the end of the business cycle.

The unemployment rate declines, reaching a 30-year low of 3.9 percent in early 2000.

Inflation averages 2.5 percent annually, compared with 5 percent in the 1980s and more than 6 percent in the 1970s.

The stock market yields more than 25 percent annually in the last half of the decade and supports consumer spending. The 1990s is the longest bull market in history. Investors believe that the market and the economy have entered a new age, which is attributed to advances in technology. NASDAQ experiences a 795 percent cumulative 10-year return.

Growth is driven by increases in labor productivity, which is fueled by information and communications technology. In the mid-1980s, 18 percent of U.S. adults use a computer. In the mid-1990s, 50 percent use a computer. People and businesses around the world communicate by email and cellular phones. The Internet will change the face of banking and commerce.

The S&L crisis that began in the early 1980s ends in the mid-1990s. The result is 1,600 bank failures and 1,300 S&L failures.

1990

Operation Desert Storm patch By year-end, the FDIC has 19,247 employees, including 4,899 RTC employees.

168 FDIC-insured banks fail.

The RTC resolves 315 failed S&Ls.

The FDIC insurance premiums increase from 8.3 cents to 12 cents per $100 of deposits. This is the first rate increase since the FDIC began operations in 1934.

Mutual funds grow to $1.5 trillion from $250 billion in 1983, partly because of the exodus of deposits from banks and S&Ls.

Iraq invades Kuwait, and the subsequent war between the U.S. and Iraq leads to higher oil prices, reduced consumption, and declining demand.

1991

Two statutes provide the Resolution Trust Corporation (RTC) with $36.7 billion in additional funding.

On January 1, the FDIC increases insurance premiums from 12 cents to 19.5 cents per $100 of deposits.

On July 1, the FDIC increases premiums to 23 cents per $100 of deposits.

By year-end, the FDIC's Bank Insurance Fund (BIF) is insolvent by $7 billion.

By year-end, the FDIC has 22,586 employees, including 8,614 RTC employees.

FDIC monitors 1,090 problem banks with $609.8 billion in assets.

124 FDIC-insured banks with $63 billion in assets fail—one-third are in New England.

The Office of the Comptroller of the Currency (OCC) declares the Bank of New England insolvent and appoints the FDIC receiver. Twenty percent of the bank's loans are non-performing. The bank is considered "too big to fail," and all depositors are protected—even those with a more than $100,000 insured limit. The General Accounting Office reports that the OCC failed to take timely and forceful supervisory action.

Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991

This act fixes problems not addressed in FIRREA.

This act:

Gives the FDIC authority to borrow $30 billion from the U.S. Treasury to help replenish the Bank Insurance Fund (BIF)

Provides for a line-of-credit from the U.S. Treasury

Directs the FDIC to apply risk-based insurance premiums. Before this, there was a statutorily mandated flat rate

Puts significant restrictions on the designation of "too big to fail," requiring approval of the President of the United States

Requires the FDIC to close banks in a manner that is least costly to the BIF

Requires that prompt corrective action be taken against banks based on their capital levels. Gives the FDIC authority to close depository institutions when capital levels fall below 2 percent

Places new restrictions on the use of brokered deposits

Requires banks to apply to the FDIC for deposit insurance independently of the chartering process

Requires bank regulators to conduct annual safety-and-soundness examinations of all insured institutions—the healthiest institutions with less than $100 million in assets can extend this exam interval to every 18 months.

1992

RTC requests additional funds to continue resolving the S&L crisis. Congress does not approve the funding.

The Bank Insurance Fund (BIF) ends the year with a deficit balance of $101 million.

The banking industry earns record profits of $32 billion for the year.

For the first time since 1984, the FDIC receives more in premiums than it spends on bank failures.

The Treaty of Maastricht is signed, which forms the European union.

1993

Banks begin paying risk-based insurance premiums, replacing the flat-rate assessment system.

Under the new risk-based premium plan, banks pay an average of 23.7 cents per $100 of deposits for insurance.

The banking industry earns record profits of $43.1 billion.

41 FDIC-insured banks fail, the lowest number of failures in 12 years.

RTC Completion Act of 1993

This act:

Provides final funding of $18 billion for the RTC

Provides for the closure of the RTC and the transfer of its workload and employees to the FDIC.

1994

Map of North America 13 FDIC-insured banks with $1.4 billion in assets fail.

Banks set a new earnings record, with reported net income of $44.7 billion.

The North American Free Trade Agreement (NAFTA) links the U.S., Canada, and Mexico into free trade, eliminating some tariffs and phasing out others.

The Federal Reserve Board raises the discount rate six times during the year.

Banks invest $19 billion in technology.

Mergers and consolidations in the banking industry continue to increase; 550 banks are absorbed by mergers or consolidations.

Only 50 new bank charters are issued, the fewest since 1943.

The Bank Insurance Fund (BIF) grows to $21.8 billion.

The FDIC electronically computes assessments and electronically collects premiums.

Riegle Community Development and Regulatory Improvement Act of 1994

This act:

Contains provisions aimed at curbing non-bank lenders' practices of targeting low and moderate income homeowners, minorities, and the elderly for abusive lending practices

Contains more than 50 provisions to reduce bank regulatory burden and paperwork requirements.

Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994

This act eliminates the legal impediments to full interstate banking. This act:

Permits bank holding companies to acquire banks in any state

Permits interstate mergers among banks, subject to concentration limits, state laws, and Community Reinvestment Act evaluations

Allows foreign banks to branch to the same extent as U.S. banks

Raises the asset ceiling to qualify for the extended exam interval to $250 million and allows more banks to qualify as "healthy."

1995

Screenshot of FDIC Web site The RTC sunsets. Over its 6 1/2 years of existence, the RTC resolves 747 S&Ls with $403 billion in assets at a cost of $160 billion to the taxpayer.

The FDIC lowers insurance premiums in on July 1.

The FDIC launches its first public website in March.

1996

Supreme Court building The U.S. Supreme Court, siding with Citibank, rules that states may not regulate the fees charged by out-of-state credit card banks. The ruling is crucial for large,

nationwide credit card issuers, many of whom have based their strategies on the ability to export fees into other states.

Banks control $4.6 trillion in assets.

More than 7,000 mutual funds control $3.7 trillion in stock, bonds, and money-market assets (compared with 1,840 mutual funds and $716 billion in 1986).

Investors have $1.7 trillion in defined contribution retirement plans.

The FDIC lowers premiums for the best-managed banks. More than 90 percent of the FDIC-insured banks pay nothing for deposit insurance.

The FDIC recapitalizes SAIF with a one-time special assessment equal to $0.657/$100 of deposits (or 65.7 basis points).

Deposit Insurance Funds Act of 1996

This act closes the chapter on the S&L crisis by providing for the capitalization of Savings Associations Insurance Fund (SAIF).

Economic Growth and Regulatory Paperwork Reduction Act of 1996 (EGRPRA)

This act accomplishes the following:

Amends the FDIA to eliminate or revise various application, notice, and record keeping requirements to reduce regulatory burden

Amends the Fair Credit Reporting Act to strengthen consumer protections relating to credit reporting agency practices

Requires that one FDIC board member be a former bank regulator.

1997

The Asian financial crisis strikes several major Asian economies, revealing severe problems in the Asian banking and financial sectors. The economic crisis leads to political upheaval. Anti-Western sentiment increases. The crisis demonstrates how rapidly money moves around the globe. The crisis is intensively analyzed by economists for its breadth, speed, and dynamism.

Perhaps more interesting to economists is the speed with which the crisis ends, leaving most of the developed economies unharmed. The Asian crisis contributes to the Russian and Brazilian crises in 1998 because after the Asian crisis, banks are reluctant to lend to emerging markets.

1998

Globe Russia experiences a series of economic and fiscal crises, which occur as East Asia and Latin America are undergoing their own financial crises.

The global financial crisis creates unease in the world financial markets and raises questions about the strength of the international financial system.

Citicorp and Travelers Group merge to become Citigroup, which weakens the separation of banking and commerce that has been in effect since 1933.

1999

Annual ATM transactions exceed $1 billion.

The banking industry and the banking regulators, in anticipation of computer problems with the new millennium, place key emphasis on Y2K.

The U.S. experiences its first budget surplus in decades.

Gramm-Leach-Bliley Act of 1999

This act:

Repeals the last provisions of the Glass-Steagall Act of 1933.

Creates a new financial holding company authorized to: Underwrite and sell insurance and securities

Conduct both commercial and merchant banking

Invest in and developing real estate activities

Underwrite municipal bonds (national banks only)

Restricts the disclosure of nonpublic customer information by financial institutions

Imposes criminal penalties for obtaining customer information from a financial institution under false pretenses

Amends the Community Reinvestment Act so that financial holding companies cannot be formed before their insured depository institutions receive and maintain a satisfactory CRA rating.

The 2000s

By 2004, three banks exceed a trillion dollars in assets. The number of banks declines. The number of branches increases. Interest rates are low. A housing boom occurs.

2000

In March, the dot-com bubble bursts.

J.P. Morgan & Company merges with the Chase Manhattan Corporation to become J.P. Morgan Chase, which is another example of the joining of investment and commercial banks.

2001

World Trade Center towers 9/11

Enron Corporation files for bankruptcy. The filing becomes the largest U.S. corporate failure in history and is emblematic of well-planned corporate fraud.

The U.S. experiences a budget deficit.

CitiGroup reports bank and non-bank assets of $1,484,000,000,000.

International Money Laundering Abatement and Financial Anti-Terrorism Act of 2001

This act accomplishes the following:

Requires additional record keeping and reporting by financial institutions for foreign nationals

Requires financial institutions to establish anti-money laundering programs

Requires further cooperation between financial institutions and government agencies in fighting money laundering.

Updating and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (U.S.A Patriot Act)

This act provides the U.S. Treasury with extra authority to investigate money laundering and other activities that might be undertaken to finance terrorist actions or disrupt banking operations.

2002

WorldCom logo WorldCom files for Chapter 11 bankruptcy, making it the largest filing in U.S. history.

The euro replaces the currency of 12 of the 15 countries in the European Union.

Sarbanes-Oxley Act of 2002

This act passes in response to the accounting scandals of Enron, WorldCom, and Tyco and affects all business, including banking.

This act:

Establishes the Public Company Oversight Board to regulate public accounting firms that audit publicly traded companies

Prohibits accounting firms from providing both auditing and consulting services

Requires that CEOs and CFOs certify the annual and quarterly reports of publicly traded companies.

2003

For the first time, electronic payments (automatic transactions, credit cards, and debit cards) totaling $44.5 billion outnumber paper checks totaling $36.7 billion.

The Federal Reserve Board reduces the number of locations at which checks are processed from 45 to 32. By 2006, the number is 23.

Fair and Accurate Credit Transactions (FACT) Act of 2003

This act:

Improves the accuracy and transparency of the national credit reporting system

Enhances consumer rights in situations involving alleged identity theft.

Check Clearing for the 21st Century Act of 2003 (Check 21)

This act fosters innovation in payment systems.

2004

J.P. Morgan Chase logoBank of America Both J.P. Morgan Chase and Bank of America report more than $1 trillion of bank and non-bank assets.

Citigroup agrees to pay $2.65 billion to settle a lawsuit involving underwriting work of WorldCom.

The FDIC consolidates into six regional offices.

2005

Citigroup Citigroup agrees to pay $2 billion to settle a class-action lawsuit over its role in the Enron collapse.

In 2002, Citigroup sold stocks and bonds in the company before Enron filed for bankruptcy.

Meetings continue to be held on the Basel II Accord, which is scheduled to be implemented in the U.S. on January 1, 2008.

The definition of capital is unchanged; however, Basel II allows the largest banks to use their own internal ratings systems to measure credit risk, as well as requires banks to measure and hold capital against operational risk.

(Link: https://www.fdic.gov/about/history/)