

HISTORY OF LEVEES

Levees were first built in the United States more than 150 years ago. Farmers, traditionally drawn to the rich soils of floodplains, put many levees in place to protect agricultural areas from frequent flooding. Other levees were built to protect cities and other developed areas. Today, millions of people throughout the United States live or work in proximity to flooding sources, such as rivers and other waterways, vastly increasing the risks associated with flooding events.

Early 20th Century

Devastating and costly floods during the early 20th century led the U.S. Congress to pass the Flood Control Act of 1917. The provisions of the 1917 Act were designed to reduce flood damage along the Mississippi, Ohio, and Sacramento Rivers. Specifically, it authorized flood-control work outside the Mississippi Valley, directed local communities to contribute half the cost of levee construction projects, and required these communities to maintain levees once construction was complete.

After a long period of unregulated and poorly constructed levees, the Flood Control Act of 1928 brought into focus public awareness and advances in flood control theory and production by expanding the policy to include flood control, spillways, and channel improvements. Additionally, it authorized the U.S. Army Corps of Engineers (USACE) to design and construct flood-control projects and emphasized the requirement for local communities to perform post-construction operation and maintenance for flood-control levees. A key provision of the 1928 Act was that the Federal Government could not be held liable for damage from floods.

The Flood Control Act of 1936 continued to recognize flood control as a national priority. The 1936 Act authorized the USACE and other agencies to construct flood-control structures such as levees and floodwalls, and perform channel improvements. The 1936 Act also committed the Federal Government to protecting people and property.

For More Information

It is a shared responsibility of community officials, stakeholders, media, and the public to understand and properly communicate the risk associated with living and working behind levees. There are a variety of resources available to provide more information about levees.

- For more levee information from FEMA, visit [Living with Levees: It's a Shared Responsibility](#).
- For FAQs on levees, visit the [Levee Resources Library](#).
- To see how levees work and how they can fail, visit [FloodSmart Levee Simulator](#).
- For more information about the National Committee on Levee Safety, visit: www.leveesafety.org/.
- For more information about the U.S. Corps of Engineers and levees, visit USACE [Levee Safety Program](#).

RISK MAPPING, ASSESSMENT, AND PLANNING PROGRAM (RISK MAP)

The Federal Emergency Management Agency's Risk MAP Program delivers quality data that increases public awareness and leads to action to reduce risk to life and property. Risk MAP is a nationwide program that works in collaboration with States, Tribes, and Local communities using best available science, rigorously vetted standards, and expert analysis to identify risk and promote mitigation action, resulting in safer, more resilient communities.

Late 20th Century

The U.S. Congress created the National Flood Insurance Program (NFIP) with the enactment of the [National Flood Insurance Act of 1968](#). The NFIP provided people living in areas around levees and in other areas with the greatest risk of flooding, called Special Flood Hazard Areas (SFHAs), the ability to purchase affordable, federally offered flood insurance. Later, with the enactment of the Flood Disaster Protection Act of 1973, the U.S. Congress established that flood insurance was required for buildings in SFHAs, if secured with loans through federally regulated or insured lenders, and in a community where NFIP flood insurance was available. In 1981, FEMA stated that using the 1-percent-annual-chance standard encouraged the construction of levees for the sole purpose of removing the SFHA designation, eliminating the need for building owners to purchase flood insurance. FEMA asserted that crediting a levee with this level of protection violated the spirit of the 1968 Act.

In 1986, FEMA established detailed requirements, documented in Title 44, Chapter 1, Section 65.10 of the Code of Federal Regulations ([44 CFR 65.10](#)), to guide the evaluation of levee systems and the mapping of areas landward of levee systems on Flood Insurance Rate Maps (FIRMs). In 1986, FEMA also issued revised regulations for the implementation of the “adequate progress” determinations required in the earlier enabling legislation. These regulations, which govern the use of the Zone A99 designation on the FIRM, appear in Section 61.12 of the NFIP regulations ([44 CFR 61.12](#)).

In 1992, the U.S. Congress passed Section 928 of the Housing and Community Development Act of 1992, establishing requirements for a flood control restoration zone, as a direct result of the decertification of the levees in and around the Los Angeles and Sacramento metropolitan areas. The intent of the 1992 Act was to make certain insurance and development benefits available in areas where a Federal flood-control system will be restored. In response to the 1992 legislation, FEMA promulgated regulations governing the use of the Zone AR designation, which appear in Section 65.14 of the NFIP regulations (44 CFR 65.14). Visit the FEMA website for additional information on [Zone A99](#) and [Zone AR](#) requirements.

21st Century

In 2007, the U.S. Congress passed the National Levee Safety Act, a key element of the [Water Resources Development Act of 2007](#) (Public Law 110-114). This element sought the collection and documentation of basic information relative to Federal levees (database, inventory, inspection, and assessments). With the passage of the 2007 Act, the U.S. Congress created the [National Committee on Levee Safety](#) (NCLS) “to develop recommendations for a national levee safety program, including a strategic plan for implementation of the program.” The NCLS consists of representatives of State, regional, and local agencies, the private sector, and Federal agencies including the USACE and FEMA. In January 2009, the NCLS issued a draft report containing the [recommendations](#) requested by the U.S. Congress.

In 2011, U.S. Senators and U.S. Representatives requested that FEMA reconsider its policy regarding the depiction of flooding associated with non-accredited levee systems to more precisely reflect the impact of non-accredited levee systems on flood hazards and associated risks. A non-accredited levee system is one that has not been demonstrated to meet the NFIP regulatory standards presented in 44 CFR 65.10 regarding the ability of the levee system to provide protection from at least the 1-percent-annual-chance flood. Between 2011 and 2013, FEMA worked with USACE staff as well as key public and private stakeholders to establish an updated approach to mapping flood hazards in areas landward of levees to address concerns

raised by the U.S. Congress. On July 9, 2013, FEMA issued [Analysis and Mapping Procedures for Non-Accredited Levee Systems](#), documenting the updated approach. Shortly thereafter, FEMA began to implement the updated approach to evaluate flood hazards in levee-affected areas in all ten FEMA Regions. The U.S. Congress enacted the [Biggert-Waters Flood Insurance Reform Act of 2012](#) (BW-12) at the same time FEMA was working with USACE and other stakeholders to develop the updated levee analysis and mapping approach. BW-12 was included in the [Moving Ahead for Progress in the 21st Century Act](#) (Public Law 112-141).

In Section 100226 of BW-12, the U.S. Congress required FEMA to work with the USACE-led NCLS to create and implement a [Flood Protection Structure Accreditation Task Force](#). Once formed, the Task Force met regularly to better align FEMA and USACE priorities and to assure coordination between headquarters and regional activities. In November 2013, the Task Force issued its [Final Report](#), containing recommendations to help FEMA and USACE better align the NFIP and the USACE Levee Safety Program. In a Memorandum of Understanding (MOU) signed in November 2014, FEMA and USACE leadership formalized the agencies' commitment to "establish a coordinated approach for levee activities that is aligned with the policies and goals of both agencies to promote life safety, flood risk reduction, risk communication, and sound national investments." The MOU defines how the recommended actions in the November 2013 Task Force report are to be carried out. FEMA and USACE colleagues are working together to implement the MOU.

In 2014, the U.S. Congress enacted the [Homeowner Flood Insurance Affordability Act](#) (HFIAA) of 2014 (Public Law 113-89). In Section 19 of HFIAA, "Flood Protection Systems," The U.S. Congress amended the requirements for adequate progress (Zone A99) and flood protection restoration (Zone AR) determinations to enable more levees to qualify for these determinations. In response to the 2014 Act, FEMA developed new guidance and outreach materials for use by FEMA partners and contractor staff who are actively involved in evaluating flood hazards and risks associated with levee systems.

FEMA has implemented a process to review each flood hazard study associated with levees within a five-year time frame of the study becoming effective to determine whether the study needs updating. To assist with this task, FEMA maintains the Coordinated Needs Management Strategy (CNMS) to track requests for updates. Once mapping needs have been identified, FEMA Regions, states, and local communities will determine priority areas based on available funding. However, states and communities can partner with FEMA to accelerate the initiation of studies by contributing monetary or data resources to the study efforts.