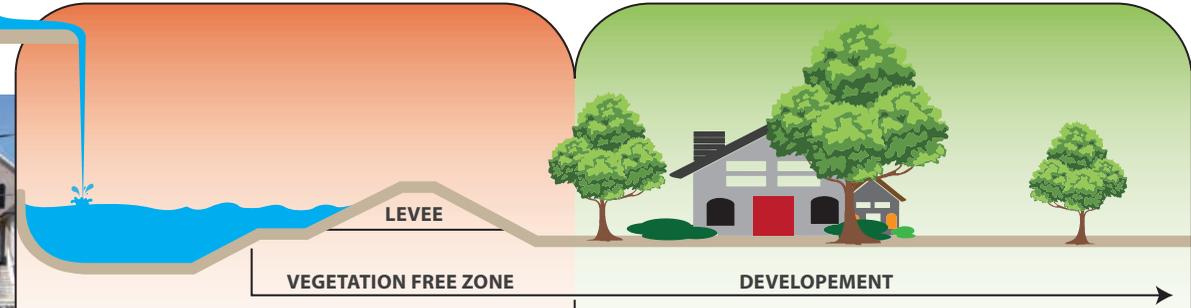


# LEVEES & RISK

## What you need to know

RISK IS CREATED BY A COMBINATION OF:

**Probability** of hazard to occur  
**Consequences** of hazard occurring



HOW LIKELY IS A HAZARD TO OCCUR?

**PROBABILITY OF FLOOD LOADING**

WHAT IS THE LEVEE'S CONDITION?

**SEEPAGE STABILITY**

**EROSION CLOSURE SYSTEMS**

WHAT ARE THE CONSEQUENCES?

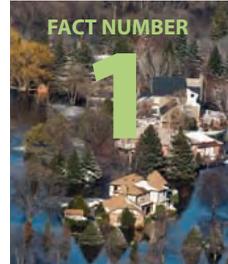
**LOSS OF LIFE**

**PEOPLE AT RISK**

**ECONOMIC IMPACTS**

**DAMAGE TO STRUCTURES, CONTENTS,**

**CRITICAL INFRASTRUCTURE**



FACT NUMBER

1

### Flooding will happen.

All rivers, streams, and lakes will flood eventually. This means that **all levees will be called upon to combat floodwaters** at some point. Don't think flooding can happen to you? Think again.



FACT NUMBER

2

### No levee is flood-proof.

Levees reduce the risk of flooding. But **no levee system can eliminate all flood risk**. A levee is generally designed to control a certain amount of floodwater. If a larger flood occurs, floodwaters will flow over the levee. **Flooding also can damage levees**, allowing floodwaters to flow through an opening, or breach.

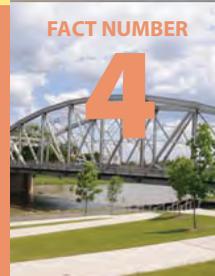


FACT NUMBER

3

### Risks from flooding may vary.

If you live behind a levee, you are responsible for knowing the threat you face from flooding. Don't assume that someone else is watching out for you. **Take responsibility.**



FACT NUMBER

4

### Act now & save lives & property.

There are many steps you can take, from **purchasing flood insurance**, to developing an **evacuation plan**, to flood-proofing your home, to reporting any problems that you see. The sooner you act, the better off you'll be when the next flood occurs. Be prepared.

### Be informed! Learn about the following:

- Where are nearby levees located?
- What areas in my community are served by levees?
- How well is the levee expected to perform during a flood?
- What areas are most likely to flood if a levee is overtopped or breached?
- What is the condition of the levees & who manages them?
- How well have the levees performed in previous floods?
- What plans are in place to ensure that any levee operations proceed smoothly during a flood?
- What is the elevation of my home relative to the potential flooding from a levee failure?
- How would my neighborhood and nearby areas likely be affected under different flood scenarios?
- How much time would I likely have to evacuate in the event of a disaster?
- Who is responsible for issuing flood warnings?
- What are my safe evacuation routes?
- What do I need to bring in the event of an evacuation?

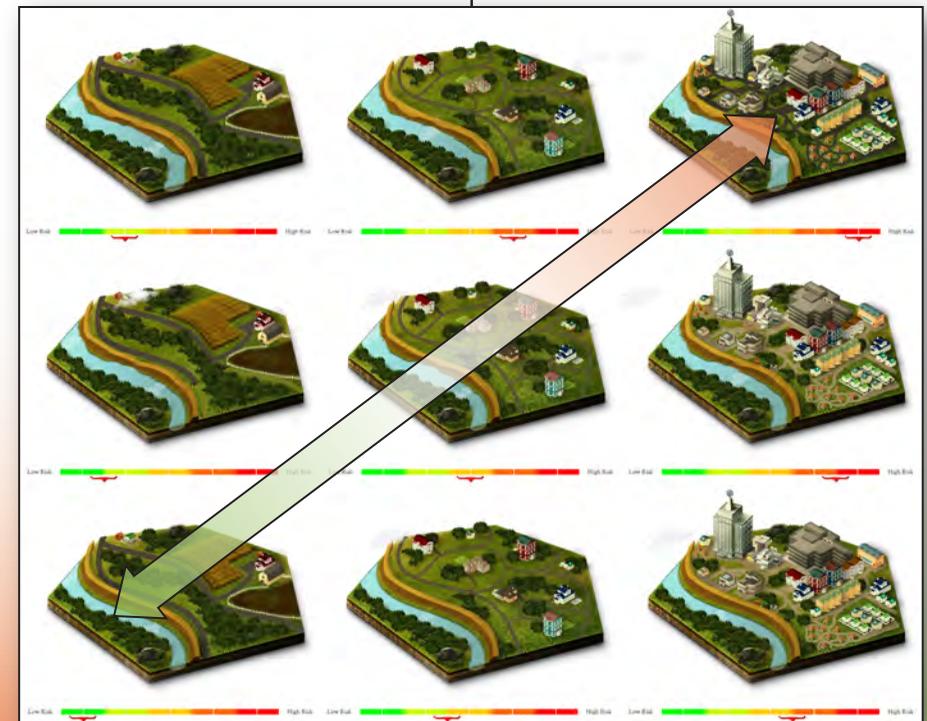
### How Communities Can Reduce Flood Risk

Flood risk can never be eliminated entirely. You take steps to reduce your home's risk of flooding. Many leveed areas are considered moderate or minimal flood hazard areas on National Flood Insurance Program maps and are eligible for low cost rates. Your community can take actions to reduce its risk, too. Levees are only one part of reducing flood risk.

Here are some additional steps to reduce flood risk:

- Buy properties in flood-prone areas, remove existing structures, & convert areas into parks or greenways that can accommodate flooding.
- Remodel or outfit buildings or raise them on stilts above floodwater levels.
- Urge homeowners to purchase flood insurance.
- Don't build structures, plant trees, or leave debris on levees.
- Adopt zoning or building ordinances to limit or manage development in flood risk areas.
- Develop or refine flood warning systems, emergency evacuation plans, & flood preparedness.
- Provide technical and/or financial assistance to property owners to protect against flooding.

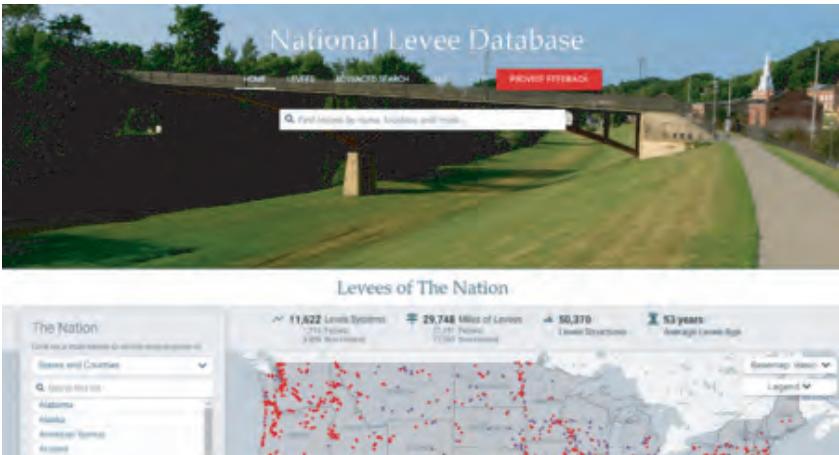
PROBABILITY ↑



CONSEQUENCES →

# National Levee Database

The National Levee Database (NLD) is available to everyone via the Internet and offers locations, general conditions, & risks associated with the Nation’s levees. <https://levees.sec.usace.army.mil/>



### WHAT CAN YOU FIND?

- Locate and understand facts about levees in the U.S. and your state
- Convenient dashboard to search topics or geographic areas of interest
- Details and data age will vary

### WHAT IS AT STAKE BEHIND MY LEVEE?

Information to help states, community decision-makers, business owners and residents living and working in leveed areas understand the importance of their levees regarding personal safety, quality of life and unique community culture and icons.

- Where is the Levee located? (including survey)
- What is at risk if a Levee breaks? (Inundation map – (leveed area)
- How many people live behind the Levee?
- What is the value of property behind the Levee?
- Is my home, school, business located in an area behind a Levee?
- Who is responsible for operating & maintaining Levees near me?**
- What critical infrastructure such as fire/police/hospitals/water & wastewater treatment facilities are in the Leveed area?

### HOW DO I IMPROVE MY LEVEE & MANAGE REMAINING RISKS?

The individuals responsible for the upkeep, operations and repair investments on a levee will find this information useful.

However, it is also helpful with planning for and reacting to high-water events, providing critical information to emergency managers and first responders, and prioritizing investments and risk management activities based on best available risk information.

- Inspection reports (including ratings and location of specific deficiencies)
- Risk assessments (including risk information and risk drivers)
- Engineering data
- Flood fight & past performance information

### WHAT IS AVAILABLE NOW?

- Data on completed inspections & risk assessments for up to 15,000 miles of levees associated with US Army Corps of Engineers programs.
- Basic location information on an additional 15,000 miles of levees outside of USACE programs.

For the future, USACE is working with states to identify & work with owner/operators to conduct inspections and risk assessments on levees outside USACE programs. USACE is also working with other federal agencies to input their levee related information into the national database. Only when this is completed, will we have a truly national picture of the levee situation in the nation.

### WHAT SHOULD STATE AGENCIES & ELECTED OFFICIALS KNOW?

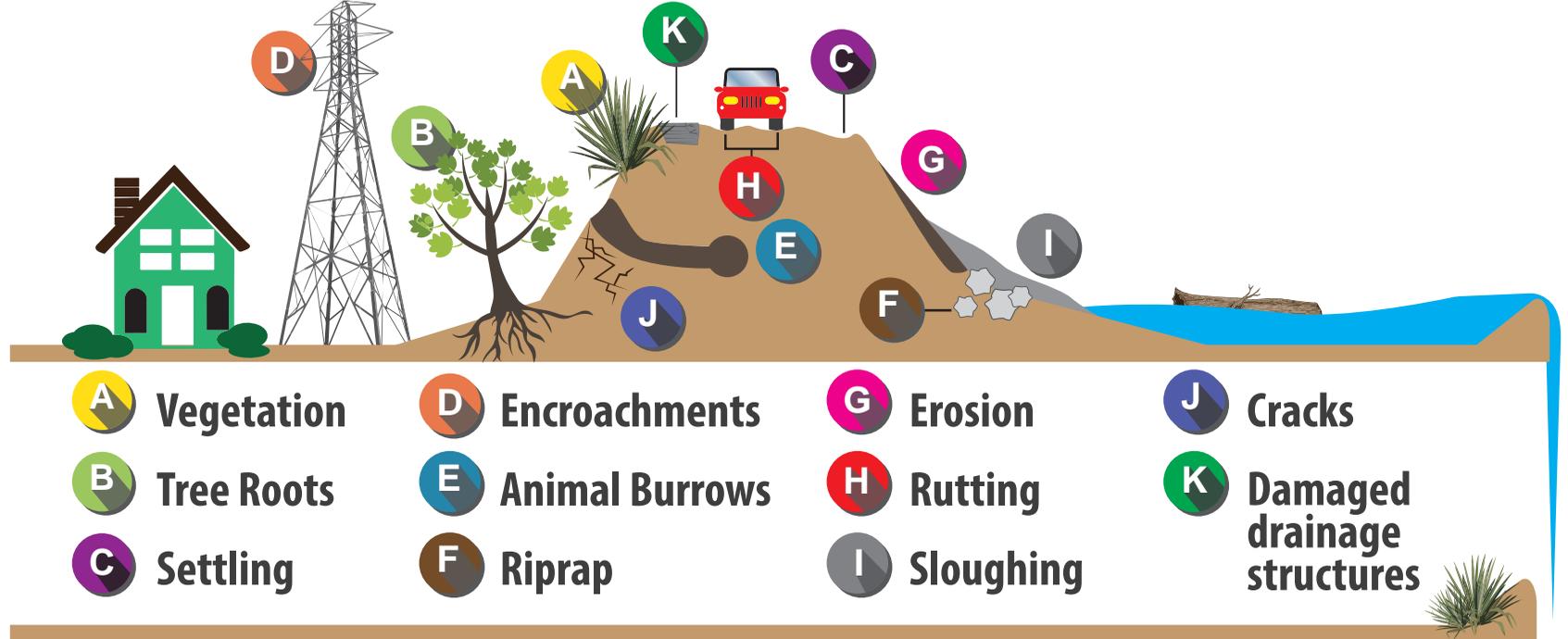
The National Levee Database provides condition and risk information for approximately 2,000 levee systems and approximately 6,000 levee systems of unknown condition and risk information across the nation.

For an understanding of the levee picture in each state, the NLD provides:

- Emergency managers up-to-date, site-specific information to assist with flood fighting & response activities
- Elected officials & agencies a comprehensive overview of the potential performance issues and what is at stake behind levees
- Details for justifying & seeking funding for investment in levee improvements & risk management efforts
- Information to bring state personnel, community leaders and the public together to discuss risk reduction & management efforts
- Awareness of levees & benefits & risks of levees at a state-wide level
- A resource that eliminates the need to develop or maintain a state-level levee database
- Consistent inspection & risk assessment tools for nationwide use

*Information that could be used to do harm to a community is restricted to owner/operators, municipal leaders and states/tribes.*

## COMMON LEVEE CONCERNS



- A** Vegetation
- B** Tree Roots
- C** Settling
- D** Encroachments
- E** Animal Burrows
- F** Riprap
- G** Erosion
- H** Rutting
- I** Sloughing
- J** Cracks
- K** Damaged drainage structures