

# NATURAL INFRASTRUCTURE SOLUTIONS TO FLOODING IN IOWA

NATURAL INFRASTRUCTURE, ALSO KNOWN AS NATURE-BASED FLOOD MITIGATION, USES NATURAL FEATURES SUCH AS WETLANDS AND FLOODPLAIN RECONNECTION TO RESTORE NATURAL ECOLOGICAL FUNCTIONS. NATURAL INFRASTRUCTURE IS EXTREMELY EFFECTIVE AT REDUCING FLOOD DAMAGE, IS COST-EFFECTIVE, AND PROVIDES ADDITIONAL BENEFITS SUCH AS CLEANER WATER AND WILDLIFE HABITAT.



## WHAT YOU NEED TO KNOW

Improving Iowa's waterways using natural infrastructure serves to protect private and public lands from floods. It is essential for counties and municipalities to maintain, service, and improve floodplains. This may include:



**RECONNECTION AND RESTORATION OF FLOODPLAINS**



**WETLAND AND OXBOW BANK RESTORATION**

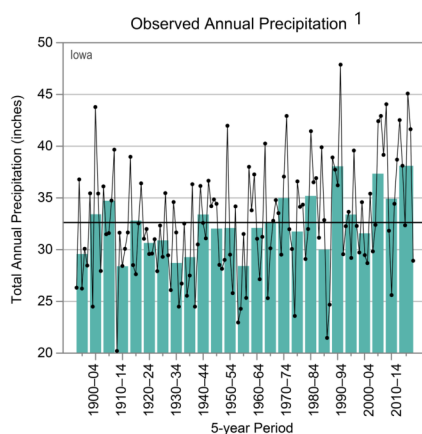


**CONSTRUCTION OF LEVEES, EMBANKMENTS AND FLOOD MANAGEMENT STRUCTURES**



**IMPROVEMENT OF STREETS AND PATHWAYS ADJACENT TO NATURAL INFRASTRUCTURE PROJECTS**

Land-use changes and natural infrastructure solutions can help us mitigate and adapt to repeated flood events. Empowering counties and municipalities to respond to flooding, using all necessary and available tools, protects residents. Restoring Iowa's natural landscapes not only provides flood management services but also preserves wildlife habitat and recreation opportunities for communities.



"In pockets of southeastern South Dakota and northwest Iowa, rain totals between 10 and 20 inches were reported. These rainfall amounts exceed the 0.2-0.1% (500-1,000 year) Annual Exceedance Probability in some areas."  
— National Weather Service report on June 2024 flooding

1. <https://statesummaries.ncics.org/chapter/ia/>  
2. <https://wallethub.com/edu/states-most-impacted-by-natural-disasters/111223>  
3. <https://www.desmoinesregister.com/story/money/business/2024/08/26/almost-550-million-in-storm-damage-so-far-in-2024-in-iowa-data-shows/74906766007/>

# BUILDING COMMUNITY RESILIENCY



## PREVENTING CRISES IN OUR LOCAL COMMUNITIES

Extreme weather events increasingly threaten Iowa's farms, communities, economy, and public health. Iowa ranks 4th in the nation for states most impacted by natural disasters.<sup>2</sup> The cost to Iowans for the historic floods, tornadoes, and other extreme weather events in 2024 alone was more than \$550 million.<sup>3</sup> Federal and state disaster declarations were warranted after over a foot of rain inundated northwest Iowa, leaving thousands without access to their homes, electricity, or safe drinking water.

**Investing in natural infrastructure will protect Iowa lives and property, boost economic stability and development, and increase our ability to weather and recover from natural disasters.**

## NATURAL INFRASTRUCTURE SUCCESS STORIES

### NAHANT MARSH RESTORATION: DAVENPORT, IA

- 382-acre restored wetland
- Protects local infrastructure and downstream communities
- Absorbed billions of gallons of water during 2019 floods
- Education center and nature preserve

"It's remarkable what has managed to come back [after the 2019 floods]. Believe it or not but this lower section of our prairie looks better than it did a year ago... I'm convinced that mother nature is resilient." — Brian Ritter, Nahant Marsh Executive Director on WQAD

### FLOODPLAIN RECONNECTION: ATCHISON COUNTY, MO

- Flood prevention project in response to historic 2019 floods that breached levee L-536 in seven places
- The 2019 flood caused an estimated \$25 million loss in agricultural revenue, destroyed 121 miles of roads, and flooded 166 homes
- Collaborative effort between local governments to reconnect floodplains

"It's about preserving nature and coexisting with it. We both benefit when it's done correctly." — Ryan Ottmann, President, Atchison County Levee Board

### FLOODPLAIN RECONNECTION: FREMONT COUNTY, IA

- Severe flooding in 1952, 1993, and 2011 resulted in levee breaches on the L-550 and L-575 along the Missouri River
- The 2011 floods amounted to nearly \$2.7 billion in damages and 5 fatalities
- Army Corps of Engineers funded the levee setback, creating more space for the floodplain

"This is a win-win situation — by setting the levee back, we're increasing the floodway and realigning the levee on to a more stable foundation." — Bryan Flere, Omaha District Levee Safety Coordinator

