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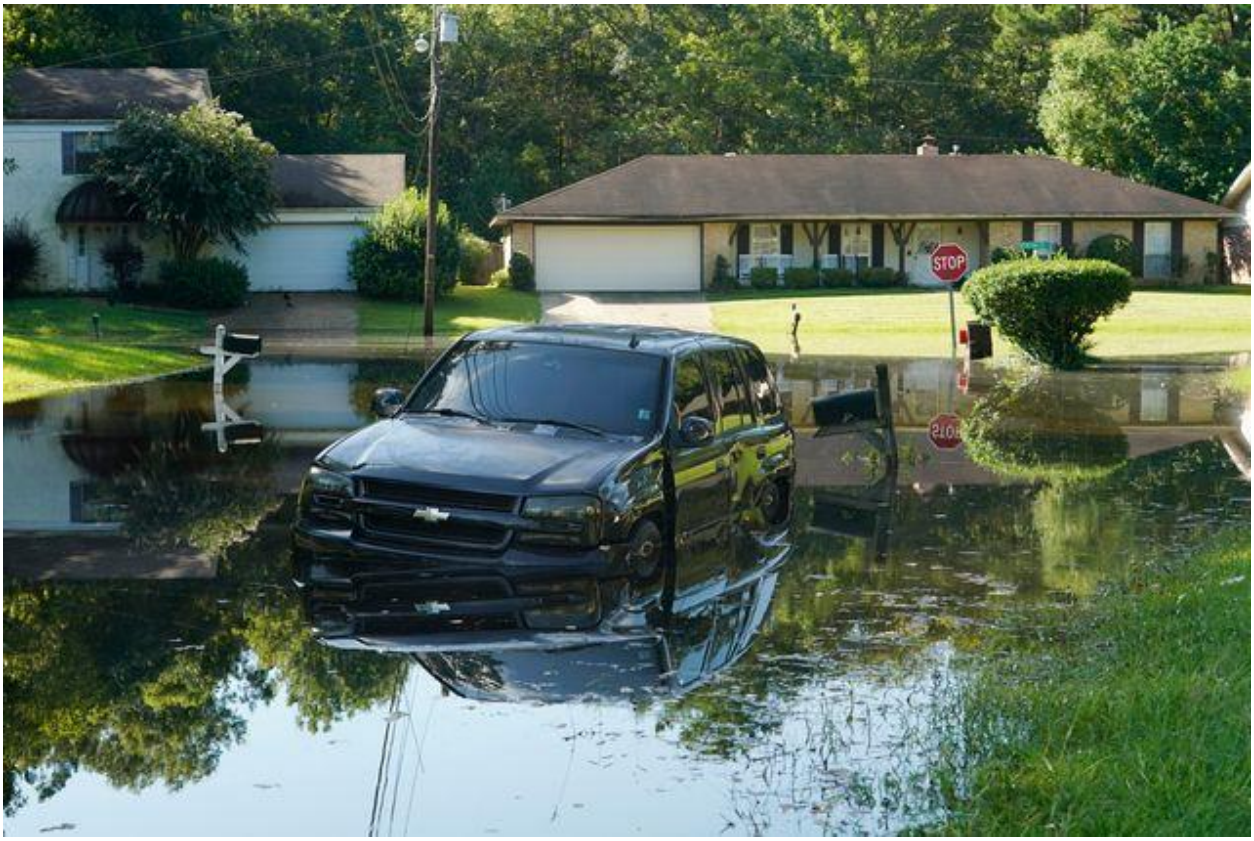
# 3 Ways to Invest in America's Crumbling Water Infrastructure

**By**
**Lauren Foster**
**Sept. 23, 2022 4:00 am ET**

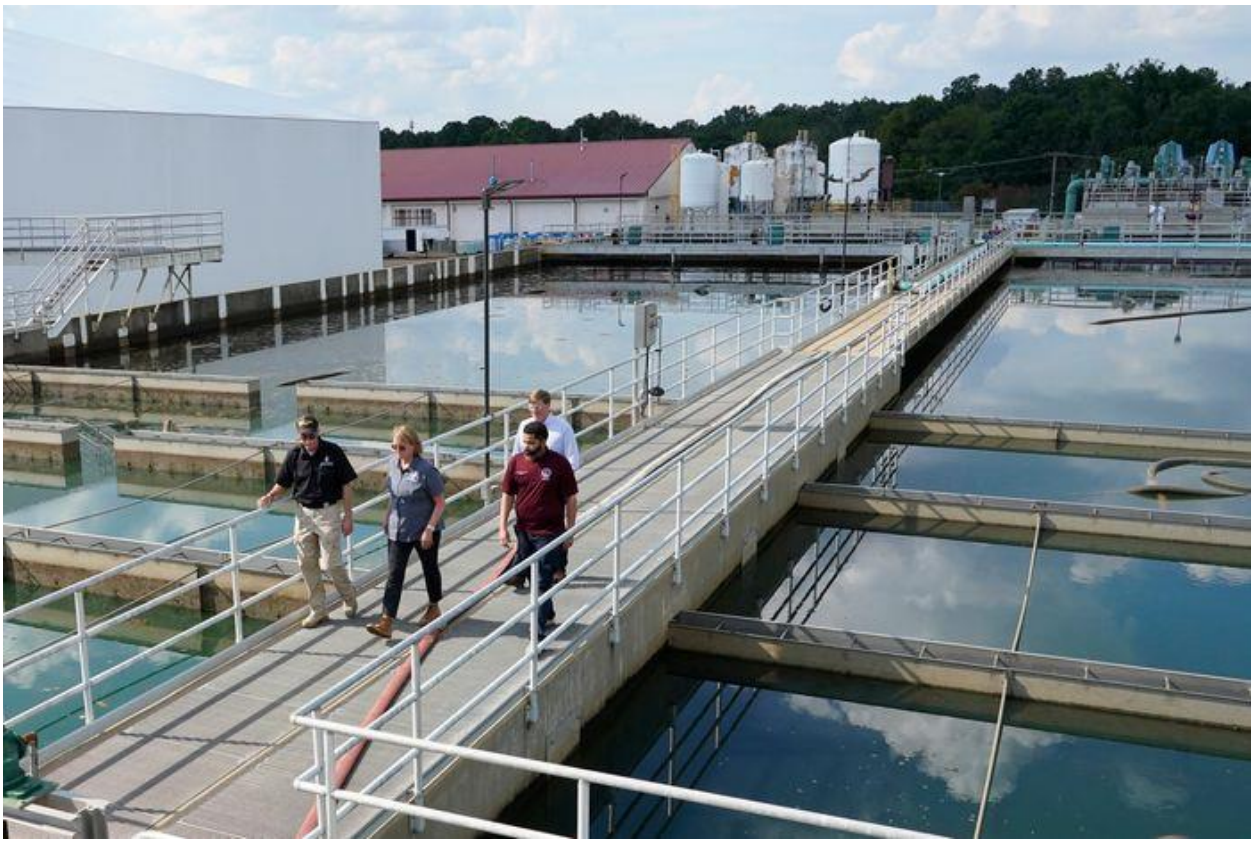



Overwhelmed water infrastructure led to flooding in parts of Jackson, Mississippi in August.
Rogelio V. Solis/AP

For more than 40 days this summer, residents of Jackson—Mississippi's capital and home to 150,000 people—could not drink their water. Torrential rain and floodwater swamped the city's largest water treatment plant in August; the pumps failed under the onslaught, and the city's water supply with them. Jackson's water systems were decades old and decrepit, no match for the onslaught of severe

weather. The city became a dramatic example of what can happen when 20th century infrastructure meets the challenges of the 21st century—and, for the rest of the country, a warning.

Below the nation's cities and towns lies a sprawling and complex system of pipes, pumps, and valves that help deliver safe drinking water to millions of homes and businesses. This vital infrastructure is now under threat: the U.S. water system is old, underfunded, and designed for a climate that no longer exists. Extreme weather patterns, including floods and freezing events, are pushing the system to the brink of collapse in some areas.



Sedimentation basins at Jackson's O.B. Curtis Water Treatment Facility in Ridgeland, Miss., on Sept. 2, 2022. Jackson's water system partially failed following flooding and heavy rainfall that exacerbated longstanding problems in one of two water-treatment plants.
Rogelio V. Solis/AP

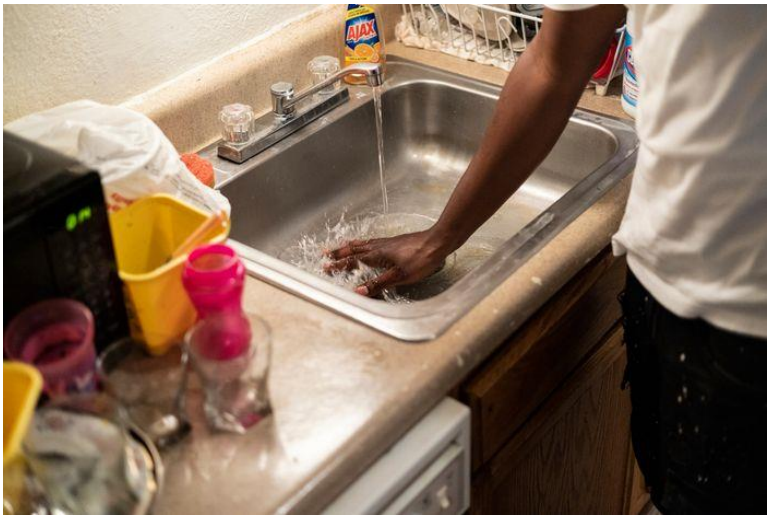
Jackson is the latest, but certainly not the only, American city to reveal how urgent this water infrastructure crisis is becoming. The lead seepage into the drinking water that sparked a public health disaster in Flint, Mich. first captured national headlines in 2014 and dragged on for years. Both cities highlight the way low-income areas and communities of color—which have received little investment or

attention—are particularly vulnerable to water issues. But while other parts of the country may have once considered their water supplies to be invulnerable, that's no longer the case.

"Our water infrastructure is essentially being held together with Band-Aids. It's only a matter of time before it will fail," says Paul S. Chinowsky, founder and director of Resilient Analytics, a consulting firm that assesses the financial impact of climate change on infrastructure. "We have to start investing now."

Last year, Congress took a significant first step toward addressing the issue with the passage of the Bipartisan Infrastructure Law, which includes the single-largest investment in U.S. water infrastructure ever: the legislation earmarked more than $50 billion to be administered through the Environmental Protection Agency's water infrastructure programs.

That's an impressive sum—until you begin to consider the likely costs of addressing a problem that's been ignored for so long. According to a 2020 report from the American Society of Civil Engineers, capital spending on water infrastructure at the local, state, and federal levels totaled about $48 billion in 2019—$81 billion short of the $129 billion needed to effectively modernize the system. That funding shortfall will only grow as the infrastructure continues to age, breeding new problems. Indeed, the American Water Works Association projects that the cost of updating the system over the next 25 years will swell to more than $1 trillion.

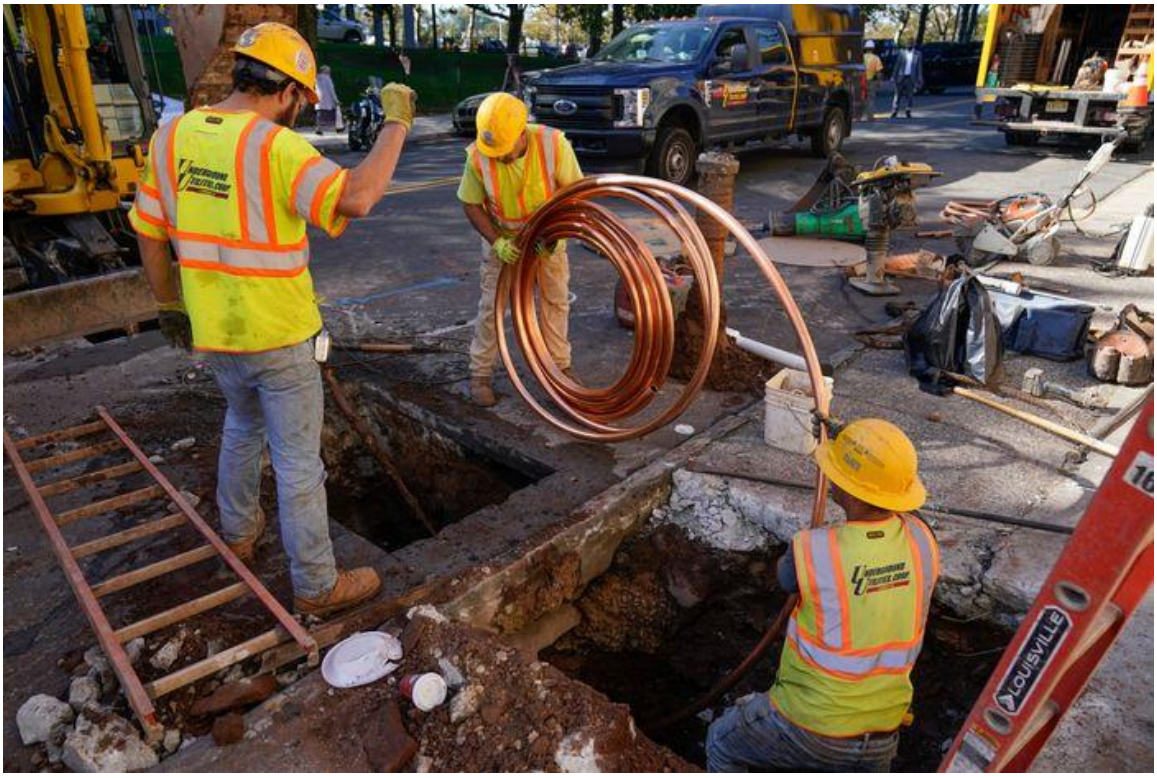



In Jackson, Terrence Carter adapts to the crisis by mixing bleach and soap into the water before washing dishes. Brad Vest/Getty Images

## How the System Got So Broken

The majority of America's water and wastewater systems were built in the 1960s and 1970s, says Chinowsky. They were designed to handle the storm water and other stresses of the time, not the intense rains and flooding now common in many parts of the country. "We not only have aging equipment, we also have undersized equipment," he says.

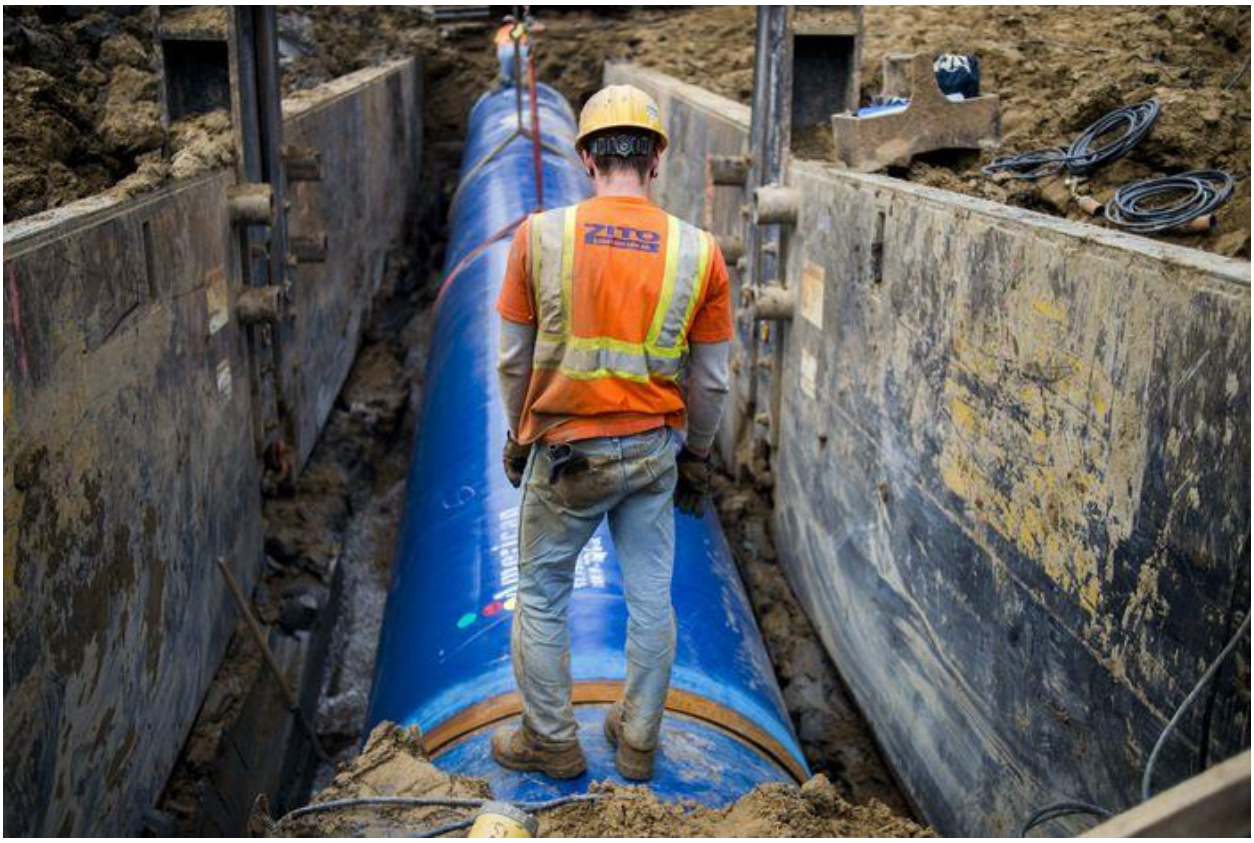
Meanwhile, the 2.2 million miles of pipe supporting the nation's drinking water is, on average, 45 years old, with some cast iron pipes dating back a century. In New Orleans, for example, more than half of the city's 1,530 miles of water mains were installed before World War II. In Washington, D.C. some pipes were installed in the Civil War era.
As these systems age, leaks increase. In the U.S., a water main breaks every two minutes, and an estimated six billion gallons of treated water is lost each day.




Workers in Newark, N.J. replace older water pipes with a new copper one. Such updates are urgently needed: the average U.S. drinking water pipe is 45 years old.
Seth Wenig/AP

When these systems were built, says Chinowsky, who is also professor emeritus in civil engineering at the University of Colorado Boulder, “there was an assumption that we were not only going to maintain them, but also we understood that the lifespan of these systems was 40 years, or if you were really pushing it, 50 years, and then we were going to replace them and upgrade them and modernize them. That was a giant assumption that just flat out did not happen.”
Many utilities are owned by state or local governments that haven’t had the means or the will to spend the significant funds required to update their water systems, says Reese Tisdale, co-founder and president of Bluefield Research, a market intelligence firm that focuses on the global water and wastewater sector, who calls water the “stepchild” of infrastructure.

“Water is not the sexiest infrastructure sector from a political point of view,” he says. “I don’t know if a lot of politicians necessarily want to stand in front of a trench in the ground and say, ‘Look what I’ve done for you.’ They’d rather stand in front of a bridge or some road that people see every day and expect every day.”



Much of the millions of miles of water pipe in the U.S. is outdated and needs to be repaired or replaced.
Jake May/The Flint Journal/AP

## How to Invest in America's Water Infrastructure

Now, sexy or not, the country is beginning to come to the realization that water infrastructure must be improved, and soon. For investors, that presents an opportunity, with options ranging from water tech companies to investor-owned utilities to funds that offer a portfolio of companies focused on solving water-related problems.

"The tailwinds for investing in water are compelling," says Will Sarni, CEO of the Future of Water Fund, a global water technology venture fund. The forces that have made water infrastructure an urgent issue—climate change, aging systems, and demographic shifts—"are not going away, they're only accelerating."

## Water Technology Companies

Deane Dray, managing director and multi-industry analyst at RBC Capital Markets, favors companies that are developing innovative technologies for the water market. Think "smart" pumps, leak detection sensors, meters, and other digitally-powered solutions designed to flag potential issues early and reduce the amount of energy used in the treatment and transport of water.

"Whether you're measuring minute flows for leak detection, or acoustics that can detect the leak in a pipe in a network, or a pressure sensor for detecting a water main break—that's where you will see faster growth and better profits," says Dray.

When it comes to smart water systems, Dray's top pick is Xylem (ticker: XYL), a leading global water technology company: "Xylem has, by a wide margin, the largest and broadest portfolio of smart water products and services," he says. "These proprietary systems help water utilities across a spectrum of applications, including maximizing energy efficiency in their water treatment plants, monitoring water quality, detecting leaks, predicting water main failures, and performing in-pipe inspections."

After damage from Hurricane Sandy, New Jersey's Lake Como installed ten Xylem Godwin pumps to route water to the ocean during future storms.
Courtesy Xylem

The company's smart pumps and sensors can adapt to changing conditions in real time. When a storm hits, for example, and water is gushing through the pipes, smart pumps can adjust to handle the volume. That reduces the risk that the excess water will overwhelm the system, as happened in Jackson. Smart meters, meanwhile, help water utilities better manage water supply and consumption. Xylem CEO Patrick Decker says aging water systems lose 20% to 50% of the water they are supposed to deliver, mostly through leaks. Smart meters are one way utilities can identify where the loss is happening. The devices send data directly to the utility and instantly communicate problems, such as a leak or broken pipe.

Danaher (DHR) is another company for investors to consider. Last week, the healthcare and industrial conglomerate announced it would spin off its Environmental & Applied Solutions business segment as a separately traded public company. The new business includes a water quality division and provides instruments, tests, and software for utilities and businesses. As *Barron's* recently reported, the business unit generated $4.7 billion in revenue last year and grew sales at an average annual rate of around 4.7% between 2016 and 2021.

**Investor-Owned Utilities**

In the private-equity sphere, investors can take a different approach: focusing on private water utilities. John Rigas, CEO of the Sciens Water Opportunity Fund, a private-equity fund that invests in companies addressing the problems facing U.S. water infrastructure, says that only about 16% of the 75,000 water utilities are currently investor-owned.

Rigas sees an opportunity to buy underperforming utilities, refurbish them, and operate them more effectively. One of the fund's portfolio companies is Central States Water Resources (CSWR), a water and wastewater utility based in St. Louis that specializes in acquiring and improving small systems. When Sciens bought CSWR in November 2018, it had 3,000 connections—industry lingo for the fresh water pipes into a home and wastewater pipes out of a home—and operated solely in Missouri. "Less than four years later, it has 133,000 connections owned or under contract pending approval in 12 states. That makes it the fastest-growing utility in the U.S.," says Rigas.

**Water-Focused Funds**

For a more accessible option, consider equity funds focused on water infrastructure. One player in the space is Water Asset Management, which offers a global water fund that owns many utilities around the world, including American Water (AWK), the largest and most geographically diverse U.S. publicly traded water and wastewater utility company.

Water Asset Management president Matthew Diserio says American Water provides reliable water to more than 3 million U.S. consumers and helps save 3 billion gallons of water annually through efficient management. Earlier this year, Pennsylvania American Water, a subsidiary of American Water, announced it had completed a deal with the City of York to acquire the city's wastewater system assets—the company's largest wastewater system acquisition to date.

"Over time, we believe municipal water and wastewater acquisitions can add 1%-plus annually to the utility's base earnings-per-share growth," says Diserio.

The fund also owns American States Water (AWR), which services more than one million people in nine states. Diserio says about 20% of the company's earnings per share comes from partnering with the U.S. military to operate and maintain water and wastewater systems in military bases. "These long-term contracts have good pricing power, as they allow for inflationary cost increases, as well as tariff

increases for water and wastewater capital upgrades every three to four years," he says.
Chinowsky of Resilient Analytics says investing in new water technologies and private water utilities is, essentially, investing in the future health of the country.

"The demand for these technologies is just going to keep growing," he says. "We really need to see these companies financed and supported because their development of technology is key to everyone's benefit and everyone's health."

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