Disaster Readiness

Patrick Marshall

Brian and Monica Smith expected fast federal help after Hurricane Harvey left two feet of water inside their Houston home in August.

But a $500 payment from the Federal Emergency Management Agency (FEMA) to help cover their most pressing needs was delayed for three weeks, and the couple waited 34 days for the agency to inspect the damage to their home.

“You feel abandoned,” Brian Smith said.¹

A record number of hurricanes in September, devastating wildfires in the West and tornados, hailstorms and droughts stretched personnel and finances to their limits at FEMA, the lead federal agency charged with preparing for and responding to weather-related crises, acts of terrorism and other man-made disasters.

Last year was the costliest year ever for natural disasters, with $306 billion in total damage.²

By December, FEMA was in the midst of its longest continuous period of disaster response ever and was forced to recruit workers from other federal departments. In November, FEMA Administrator Brock Long told Congress that his disaster-response workforce, consisting of about 22,600 workers, was “tapped out.”³

FEMA’s struggles are raising new concerns about whether it has the right funding mechanisms and strategies to effectively manage disasters — and beyond that, whether the nation’s approach to preparing for and responding to disasters needs an overhaul.

State and local governments are the first line of defense when disaster strikes. But critics of the nation’s current policies question whether local officials are doing their share, not only in responding...
to disasters but in taking proactive steps — such as curtailing development in disaster-prone areas — to limit damage.

“It is time to question what is FEMA’s role in disaster management and emergency recovery,” Long told a House Appropriations subcommittee. “FEMA was never designed to be the first or only respondent in a disaster, but we often find ourselves in that situation.”

Questions surrounding FEMA’s role, responsibilities and limitations have taken on increased urgency as scientists warn that weather-related disasters will continue to become more frequent and severe because of climate change.

Demand for disaster aid, meanwhile, continues to rise. More than 4.7 million Americans registered for such aid in 2017, a tenfold increase from the 480,000 who registered in 2016. Fewer than 180,000 registered each year in 2013, 2014 and 2015.

Disaster-management specialists, climate scientists and other experts say several problems highlight the need for long-term, systemic changes in how the country prepares for and responds to disasters. Among the biggest challenges:

- **FEMA’s disaster budget.** Critics say it is not keeping pace with the rising number and intensity of disasters, increasingly forcing the agency to seek emergency funding from Congress.

- **Lack of development controls.** Billions of dollars in taxpayer money are wasted every year, critics say, because state and local zoning ordinances allow homeowners and businesses to rebuild repeatedly in disaster-prone areas, and because the federal National Flood Insurance Program (NFIP), run by FEMA, essentially encourages people to build in areas at high risk for flooding.

- **Proposed funding cuts.** President Trump wants to cut money from programs that experts regard as crucial to protecting communities from natural disasters. The cuts would affect FEMA’s flood-mapping program, grants designed to help state and local governments prepare for natural disasters as well as programs at the National Oceanic and Atmospheric Administration that help coastal states brace for dangerous weather events.

  “The president has definitely sent a signal . . . that emergency management is not of interest,” said Scott Knowles, a historian at Drexel University in Philadelphia, who studies risk and disaster.6

  Administration officials defend the cuts as necessary to create a leaner, more efficient government. They also said one area targeted for cuts — a block grant program that helps with long-term disaster relief — has not proved its effectiveness.

  The past year’s record-setting weather events posed an unprecedented challenge for the nation’s disaster-response community. The 2017 hurricane season was among the 10 most active ever and included three Category 4 storms — Harvey, Irma and Maria — that hit between Aug. 25 and Sept. 20.

  In Puerto Rico, where Hurricane Maria created a humanitarian crisis, about half the island territory’s population remained without power three months after the storm, according to San Juan Mayor Carmen Yulín Cruz.

  Puerto Rico’s official death toll from Maria was 64 in December, but the true count is approximately 1,000, according to data obtained by Puerto Rico’s Center for Investigative Journalism.

  Trump gave his administration top marks for how it handled the storm, but Refugees International, a humanitarian organization, strongly criticized the administration’s performance, citing a “failure to respond boldly and effectively in the initial days and weeks after the hurricane.”

  By October, the United States had experienced 15 weather-related crises costing more than $1 billion each. Those crises do not include the wildfires that tore through Southern California beginning Dec. 4 because loss figures for that disaster are not yet final.

  The Thomas Fire near Los Angeles quickly became the largest in the state’s history. As of Jan. 15, it had burned nearly 282,000 acres, destroyed more than 1,000 structures and was linked to two deaths, including that of a firefighter. On Jan. 2, Trump declared the December fires a major disaster, freeing up federal funds for recovery efforts. A week later, heavy rains over the burned areas triggered mudslides that killed at least 15 people, forced thousands to evacuate, and swept away cars and homes. The hardest-hit area was in and around Montecito in Santa Barbara County.
FEMA uses spending on past major disasters as a guide when drawing up its budget requests. But that approach often falls far short of providing enough money to cover each year’s disaster costs. When FEMA runs out of disaster money, Congress steps in with emergency funds. Since September, lawmakers have approved about $52 billion to aid hurricane and wildfire victims, bail out the financially troubled NFIP and keep Puerto Rico’s government from running out of money. On Dec. 21, the House passed legislation to provide another $81 billion in aid related to the 2017 hurricanes and wildfires. About $28 billion of that would go to FEMA.12

Disaster-management experts say such emergency expenditures have become routine as natural disasters increasingly overwhelm FEMA’s resources. “There’s been rumblings in the emergency management community for a while about how sustainable this is,” said Jeff Schlegelmilch, deputy director of the National Center for Disaster Preparedness at Columbia University.13

Some of the blame for rising disaster costs falls on state and local officials who allow development in disaster-prone areas and fail to adopt building codes that would make homes and businesses better able to withstand flooding, high winds and wildfires, experts say.

Houston’s status as the largest U.S. city with no zoning laws drew renewed scrutiny after Hurricane Harvey dumped more than 45 inches of rain on parts of the city over 84 hours, causing catastrophic flooding. Experts said if the city had built better storm-water systems and barred development in flood-prone areas, the damage would have been less.14

In wildfire zones, critics say local officials could do more to require homeowners to build with fire-resistant materials, prohibit building on steep slopes where fires move faster and increase space between homes. California, particularly Santa Cruz, is a national model for such requirements. The U.S. Forest Service estimates that 45 million homes are in areas at high risk for wildfires. It expects that number to increase to 63 million homes by 2030.15

FEMA has proposed requiring states to spend a set amount each year on emergency management and disaster readiness in order to be eligible for federal financial help after major disasters. But the idea has met stiff resistance from local officials.16

The National Flood Insurance Program also is long overdue for reform, disaster management experts say. The program subsidizes policyholders’ premiums to make them affordable, but critics say the subsidies...
Tropical Storms Are Deadliest Natural Disasters

Tropical cyclones, including hurricanes, have been the deadliest and most destructive natural disasters in the United States over the past 30 years.

Natural Disasters, Cost and Fatalities, 1987-2017

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<tr>
<th>Natural Disasters</th>
<th>Cost (in $ billions)</th>
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encourage rebuilding in areas that repeatedly flood. Structures rebuilt again and again after floods make up just 1 percent of NFIP policies but account for 25 to 30 percent of claims, according to the Pew Charitable Trusts.17

Experts say better disaster planning at all levels of government will become more important as weather patterns change.

Two independent research teams, in the Netherlands and California, said the staggering rainfall from Hurricane Harvey — 33 trillion gallons — was due to global warming caused by human activity. And the American Meteorological Society said three separate weather events in 2016 — an odd “blob” of warm water off Alaska’s coast, a heat wave in Asia and record global warmth — would not have occurred without human-caused climate change.18

But not everyone agrees that climate change should be a top concern. The real reason disaster costs are rising so quickly is “because more people are living in dangerous areas,” contends Chris Edwards, an economist at the Cato Institute, a libertarian think tank in Washington.

As experts and policymakers consider how best to prepare for disasters, here are some of the questions they are asking:

Does FEMA need an overhaul?

Last year’s string of billion-dollar disasters focused renewed attention on FEMA’s budget. But problems with the country’s disaster-response strategy go beyond money, some experts say.

“Whenever there is a disaster of some sort, FEMA coordinates all the agencies of government and the nonprofit sector, and then when the response phase is over, that system sort of disbands,” says James Kendra, a professor of public policy and co-director of the Disaster Research Center at the University of Delaware. “Then it is reinitiated again for the next event.”

That constant change, he says, results in losing “a lot of expertise and experience.”

Other experts have called for making FEMA once again a stand-alone Cabinet agency, saying it became more bureaucratic and overly focused on terrorism after being folded into the Homeland Security Department in 2003.

Following that move, officials in Shelby County, Ala., complained “that they could get money for chemical suits but not for emergency operations centers,” according to Elaine C. Kamarck, a senior fellow in governance studies at the Brookings Institution, a liberal think tank in Washington. After Hurricane Katrina in 2005, she said, FEMA refused to let the Red Cross deliver food to hurricane victims in New Orleans, largely due to confusion over who was in charge.

“How did so many people make so many disastrous judgments?” she said. “This is what happens when an agency is systematically undermined and caught up in red tape.”19

Seventeen federal agencies play some role in disaster response, but FEMA is the primary agency responsible for managing and coordinating federal action after all major domestic emergencies and disasters, including terrorist attacks and other human-caused crises.

FEMA carries unspent disaster relief money over from one year to the next, but the fund often is too small to cover disaster costs, the Congressional Research
Service, the research arm of Congress, reported in 2016. Congress appropriated $7.3 billion for FEMA’s Disaster Relief Fund in fiscal 2017, but damage from Hurricanes Harvey and Irma in Texas and Florida alone will cost an estimated $150 billion to $200 billion, according to Moody’s Analytics, a New York firm that researches economic trends.20

“Should FEMA’s budget be increased? Absolutely,” said Susan Cutter, director of the Hazards and Vulnerability Research Institute at the University of South Carolina.21

Since its creation in 1979, the agency has responded to nearly every major disaster on U.S. soil, including a massive toxic waste crisis in New York state in 1980, the bombing of a federal office building in Oklahoma City in 1995 by a domestic terrorist and a destructive earthquake that rocked Washington state in 2001.22

Matt A. Mayer, a senior Homeland Security official during Hurricane Katrina, supports having FEMA’s administrator report directly to the president. “It simply reflects the reality of what happens anyway when a major natural disaster strikes America,” he wrote. “FEMA should once again become a stand-alone agency.”23

Other experts, however, warn against enhancing FEMA’s role. “If you want to completely federalize disaster response and make FEMA the one-stop shop, you would have to vastly expand [its] size,” says David Inserra, a policy analyst at the Heritage Foundation, a conservative think tank in Washington that advocates for limited government. “What you would then see is a lot more stories of ‘FEMA is slow to respond,’ and everyone will be blaming the government.”

Some FEMA critics want to simply shut the agency down and let the private sector — businesses, charities and individual citizens — handle disaster relief duties.

“FEMA is expensive, crippled with bureaucratic red tape, and driven by political interests rather than emergency needs,” wrote two professors — Emily C. Skarbek, who teaches political theory, and David Skarbek, who teaches political science — at Brown University in Providence, R.I. “Let’s . . . [shut down] FEMA and allow civil society to resume its role in providing true relief for the sustenance of a vibrant democracy.”24

During the 2011 Republican presidential primary debates, former Massachusetts Gov. Mitt Romney also argued for shutting down FEMA. “Every time you have an occasion to take something from the federal government and send it back to the states, that’s the right direction,” he said. “And if you can go even further and send it back to the private sector, that’s even better.”25

Kendra, however, says states lack the resources to rebuild communities after major disasters. “I don’t see any way around having federal involvement in infrastructure restoration,” he says, citing estimates that the country needs to spend at least $2 trillion modernizing roads, transit systems, bridges, water systems, power grids and other infrastructure.

A study conducted by the National Institute of Building Sciences in 2005 concluded that every dollar FEMA spent over a 10-year period on hazard mitigation saved roughly $4 in recovery costs after earthquakes, floods and wind events.26

**Should states and localities shoulder more of the burden in disaster preparation and response?**

By law, state and local governments handle natural disasters on their own, if they can. The 1988 Stafford Disaster Relief and Emergency Assistance Act says federal officials step in when the president determines that a disaster is too severe for states, localities and private relief organizations to handle it without help.27
“Some states have invested more than others,” says Jeffery S. McLeod, director of homeland security and public safety at the National Governors Association.

Vermont, for example, has a statewide account for disaster expenses that includes incentives for local governments to adopt their own disaster-mitigation practices. Colorado provides state funding to prevent the spread of wildfires.28

But about a dozen states — including Florida and South Carolina, both hit by Hurricane Irma — do not have dedicated disaster funds and cover disaster expenses after the fact. While 28 states have established special funds to help residents and businesses after a disaster, several of those funds contain no money.29

Federal policymakers have criticized states that count on federal officials to provide disaster assistance and underfund their own mitigation and relief programs. In the wake of Hurricane Harvey and Houston’s urgent requests for federal aid, Long, FEMA’s administrator, said state and local governments need to rely less on the federal government in responding to disasters.

“We need elected officials at all levels to sit down . . . and make sure they have everything they need to increase levels of self-sufficiency,” Long said. “They can’t depend only on federal emergency management.”30

Critics of Houston’s approach to disaster mitigation say lax zoning and land-use requirements allowed the city to turn into hundreds of square miles of flat, flood-prone concrete.

Texas is a “laissez-faire, freewheeling, anti-regulation” state, says Kendra at the University of Delaware. “And that counteracts a lot of the kinds of initiatives that we want to do to make places less prone to hazard, Houston being the pre-eminent example.”

Texas is one of only seven states (along with Alaska, Florida, Nevada, South Dakota, Washington state and Wyoming) that does not levy an income tax. Washington tax lawyers Peter Barnes and H. David Rosenbloom said Texas ranks 43rd in per capita state tax revenue. Because the state has opted not to tax its residents more heavily, they said, it does not deserve to receive no-strings-attached federal aid after a disaster such as Hurricane Harvey.31

“The bulk of the federal money to help Texas residents rebuild their lives and communities should come in the form of a loan — perhaps a long-term loan at a favorable interest rate, but definitely a loan,” the lawyers wrote.32

FEMA’s inspector general and the Government Accountability Office (GAO), the investigative arm of Congress, have suggested that FEMA raise the threshold for the amount of damage required before a state qualifies for a presidential disaster declaration. In 2017, that threshold was $1.43 per state resident. “Some would argue that it’s too low,” Long said last year.33

During the Obama administration, FEMA also proposed a “disaster deductible” plan that would require each state to spend a certain amount on disaster response, mitigation and preparation to qualify for agency help rebuilding infrastructure.34

Some states say the plan would be unfair to disaster-prone states with small budgets. Louisiana officials noted that their deductible of $73.9 million, for example, would be about the same as that of much larger Texas.35

“But [states] don’t have big budgets,” says Mike Sprayberry, North Carolina’s emergency management director and president of the National Emergency Management Association. “Are you going to penalize them and make it so that their federal threshold for public assistance disaster declaration is going to significantly rise if they have no way of buying that down?”

But Inserra at the Heritage Foundation says state and local governments “have to have a certain amount of skin in the game. From a money perspective, it helps shape the way in which you prepare for disaster,” he says. “If you know you’re going to be on the hook for more of [the costs of] a disaster, then change the way in which you determine who and how you build in a floodplain changes.”

Under the Stafford Act, the federal government is responsible for paying at least 75 percent of the cost of addressing “immediate threats to life and property resulting from a major disaster.” But Inserra suggests that share could be lowered to 25 percent, say, for disasters that barely meet the threshold for federal aid.36

One problem with designing incentives for states to spend more money preparing for disasters is that no agency tracks what they are spending now. “The amount of state and local government investment in disaster relief and mitigation, a key part of the funding picture, remains unknown,” the Pew Charitable Trusts reported.37
Despite that, states say they spend more on disaster preparation and response than the federal government acknowledges.

“I think across the board right now, what we’re seeing is an underappreciation for the amount of investment that has gone on in most states to mitigate risk,” says McLeod at the National Governors Association. “If you raise the deductibles, states are not going to be doing more than they are already doing. It would be more of a cost shift than a cost savings. States really are operating at their limit.”

With or without federal incentives, some experts argue that states are better positioned than the federal government to prepare for and respond to disasters and should focus not only on developing their own resources but also on helping each other after disasters.

“I don’t see any evidence that the federal government is any more competent than state governments,” says Edwards at the Cato Institute.

Reducing the federal government’s role in disaster response would actually encourage states to increase their own disaster-related spending, Edwards says. “I fear that the more the federal government gets involved, the more that states sort of sit back and don’t recognize that they are supposed to be in the driver seat on disasters,” he says.

Should the National Flood Insurance Program be shut down?

“Flooding is the most frequent and expensive disaster in the United States,” Ray E. Wright, deputy associate administrator of FEMA’s Federal Insurance and Mitigation Administration, told Congress last March.

Wright urged legislators to reauthorize the National Flood Insurance Program, which Congress created in 1968 to insure property owners in flood-prone areas when private-sector insurance is unavailable or too expensive. To qualify for NFIP coverage, communities must adopt specific floodplain management regulations to mitigate flood damage.38

The latest federal stopgap spending bill passed by Congress extended the NFIP’s authorization to Jan. 19.39

FEMA covers the vast majority of NFIP costs through premiums, fees and surcharges from the 5.1 million participating policyholders. Catastrophic storms over the past 15 years, however, have put the program deeply in debt.

Wright told Congress in March that the NFIP owed the U.S. Treasury $24.6 billion and was making annual interest-only payments of nearly $400 million. The August and September hurricanes increased the program’s debt to more than $35 billion.40

“Put plainly, the NFIP is not designed to handle catastrophic losses like those caused by Harvey, Irma and Maria,” Mick Mulvaney, director of the White House Office of Management and Budget, said in a letter to Congress. He asked Congress to forgive $16 billion of NFIP’s debt and legislators agreed.41

The NFIP’s financial problems stem largely from the premiums it charges, which are subsidized by law and do not reflect actual flood risks, according to the GAO. Because of those subsidies, the GAO said, FEMA received $11 billion to $17 billion less from 2002 to 2013 than it would have received if the premiums had reflected true flood risks.42

Subsidizing flood insurance premiums also encourages people to build homes in hazardous floodplains, some experts say. “When property owners don’t bear the full cost of the risks they face, they are encouraged to take on more,” R.J. Lehmann, co-founder of the R Street Institute, a free-market advocacy group in Washington, told a congressional hearing in June. “The NFIP is not sustainable in its current form.”43

Edwards at the Cato Institute says New Orleans offers a “classic example” of how federal flood insurance encourages people to live in dangerous areas. “The massive flood-wall building that they have been doing for half a century now has encouraged people to be in places where, frankly, they shouldn’t be,” he says.

He argues for gradually replacing NFIP policies with private-sector insurance. “If you did not have federal flood insurance, you would’ve had private insurance develop over the decades,” he says. Edwards acknowledges that some homeowners would likely be unable to get private insurance, but “that is because those people live in dangerous places where development should not occur.”

Inserra at the Heritage Foundation also argues for phasing out the NFIP. “I would start with the lowest-risk areas, then move to the highest-risk areas so those people have the most time to prepare for the end of the program,” he says. “I think we can do this within a few years.”
FEMA officials recognize that private insurers are increasingly interested in providing coverage for floods, Wright told Congress in March.

Private insurers once considered flooding an uninsurable hazard because they did not have reliable methods for assessing the risks for individual homes. New data sources have changed that, insurers say.44

But Wright voiced concerns that private insurers would “cherry pick” the lowest-risk clients, leaving the NFIP with only high-risk policies during any phase-out period.

“This could lower NFIP premium revenue while increasing potential claims payouts,” he said. “Such actions would leave the program and taxpayers with even more financial risk.”45

Jay M. Feinman, a law professor at Rutgers University and an expert in insurance law, said such a circumstance might be unavoidable. “There are going to be lots of . . . homeowners who depend on flood insurance at something like the price they are paying now,” he says. “We can’t all of a sudden either say insurance is unavailable or that prices are going to dramatically increase.”

Rep. Tom MacArthur, R-N.J., agrees. “No, the NFIP is not perfect, but our goal should be reforming the program so it works better, not getting rid of it entirely and leaving people in coastal communities exposed,” he wrote as hurricane season approached last July.46

Of the approximately 5 million homes covered under the NFIP, 40 percent are in Florida. Joshua Butts, founder of Cornerstone Insurance in Tampa, said ending NFIP coverage could shut down Florida’s economy because no private carrier would step up to replace the program.47

“And even if one carrier did try to massively expand the number of customers, the rate [would be] so astronomical that [people] could not afford their home,” Butts said.

In the long term, private flood insurers would increase competition and drive down rates, Butts said. But for now, he said, private companies do not have the money that FEMA has available to insure large numbers of homeowners.48

**BACKGROUND**

**Informal Federal Role**

Until the middle of the 20th century, there was no comprehensive federal legislation regarding disaster relief, nor did state governments provide much help to communities when disasters struck.

Most states “were ill-equipped, unprepared, or unwilling to intervene,” Arizona State University researchers Tonya Adamski, Beth Kline and Tanya Tyrrell wrote in 2006. Instead, local governments were the primary, and often sole, source of assistance.49

The first documented case of the federal government responding to a local disaster occurred in 1803, when Congress passed legislation to help a New Hampshire town destroyed by fire.50

Between then and 1950, Congress passed 128 separate bills aimed at delivering relief to individual communities hit by disasters, but lawmakers did not approve legislation formalizing a federal role in disaster mitigation or response.51

“Relief bills were often blocked because policymakers did not believe that aid was a proper role for the federal government,” Edwards at the Cato Institute wrote in 2014.52

In October 1871, the Great Chicago Fire killed an estimated 300 people and left more than 100,000 — a third of the city’s population — homeless. Mayor R.B. Mason issued an order putting the city under Army control.53

Seven years later, Congress passed the Posse Comitatus Act, primarily to end the use of federal troops to supervise elections in states that had seceded during the Civil War. But the act also prevented troop deployments for other purposes, such as maintaining order in civilian communities after disasters.54

In 1887, President Grover Cleveland vetoed a bill that would have provided $10,000 in aid to drought-stricken Texas farmers, saying nothing in the Constitution authorized such aid.55

Despite the Posse Comitatus Act, the Army played a major — and controversial — role after a massive earthquake leveled much of San Francisco in 1906. The earthquake and resulting fires killed more than 3,000 people, destroyed 28,000 buildings and caused approximately $500 million in damages, equivalent to more than $12 billion today. In the chaos that followed, Army Gen. Frederick Funston took control of the city.56

His troops expropriated horse-drawn wagons and other private property, and kept order. Congress also appropriated $2.5 million in aid, but private donors and
insurance companies provided the vast majority of relief and rebuilding funds.57

In 1917, War Department regulations reasserted limitations on federal involvement in domestic disasters. The rules specified that state and local authorities had primary responsibility for disaster response, and federal agencies should step in only when local resources were overwhelmed.58

The 1936 Flood Control Act committed the federal government to a larger role in disaster mitigation efforts. Previously, the U.S. Army Corps of Engineers had built and maintained levees to aid navigation, but the 1936 law specifically designated flood control as a federal activity and authorized hundreds of flood-control projects.59

**Disaster Legislation**

The 1950 Disaster Relief Act established the first permanent federal disaster relief fund. The money was intended to pay only for repairing local-government facilities, but amendments in 1951 and 1953 extended coverage to provide emergency housing and delivery of federal surplus supplies to disaster victims.60

The law authorized the president “to respond to hurricanes, earthquakes, fires, floods and other events with various types of aid,” according to Edwards.61

The law also established a standard process for state and local authorities to request federal assistance, not just for immediate aid but also for long-term recovery.62

On Sept. 9, 1965, Hurricane Betsy made landfall as a Category 3 storm in Grand Isle, La., killing 75 people and causing $1.2 billion in damage, a record at the time. After the storm, Congress ordered the Army Corps of Engineers to build levees to protect New Orleans.63

The heavy losses from Betsy also prompted Congress to pass the National Flood Insurance Act of 1968, which led to creation of the National Flood Insurance Program. The NFIP was designed to “adjust where and how people build instead of adjusting our rivers and ecosystems,” said Larry A. Larson, a former director of the Association of State Floodplain Managers, a group in Madison, Wis., that promotes policies aimed at mitigating flood-related damage.64
The national program offers coverage — often at below-market rates — to homeowners and businesses in communities that adopt and enforce floodplain management regulations specified by FEMA.

Congress followed up with the Disaster Relief Act of 1974, which created the Federal Disaster Assistance Administration, a forerunner of FEMA. The law also set up the current system in which a presidential declaration of a major disaster triggers federal aid.

Despite the 1974 law, federal disaster response services remained fragmented, according to Adamski, Kline and Tyrrell at Arizona State University. “By the early 1970s, more than 100 federal agencies were involved in some aspect of risk and disaster management,” they said.65

FEMA’s Struggles

To address the fragmentation problem, President Jimmy Carter issued an executive order on March 31, 1979, establishing the Federal Emergency Management Agency.66

The order — which combined more than 100 programs across the federal government — was designed to merge disaster mitigation and response duties with responsibility for providing secure facilities for government officials if the country was attacked.

The first disaster response to be funded on a cost-sharing basis, with the federal government assuming 75 percent of the expense and states and localities the other 25 percent, was for the 1980 eruption of Mount St. Helens in Washington state, which blew 1,300 feet off the top of the volcano, flattened forests and scattered ash across a dozen states.67

In 1988, Congress passed the Stafford Disaster Relief and Emergency Assistance Act, under which governors seek a presidential declaration of an emergency or disaster for major events.68

The Stafford Act revised the 1974 Disaster Relief Act to broaden the scope of existing disaster relief programs, encourage state and local governments to develop comprehensive disaster preparedness and assistance plans and programs, and encourage hazard mitigation efforts, including development of land use and construction regulations.

The Stafford Act “has spurred increased federal intervention in smaller-scale disasters,” Edwards wrote. “Few of the ‘major disasters’ declared in recent decades have actually been major enough to meet the plain language of the statute.”69

The Stafford Act requires federal officials to provide three principal types of disaster aid:

- Public assistance, including emergency protective services, debris removal and repair or replacement of damaged public infrastructure;
- Direct aid to households, including housing assistance, legal services and unemployment assistance;
- Hazard mitigation assistance aimed at reducing the effects of natural disasters and other events.70

The law clarified the federal role in responding to disasters, but it did not resolve organizational and morale problems at FEMA, according to Adamski, Kline and Tyrrell. In 1989, FEMA’s slow response to Hurricane Hugo, which killed 85 people and caused more than $15 billion in damage in the Southeast, prompted Sen. Earnest Hollings, D-S.C., to call the agency “the sorriest bunch of bureaucratic jackasses.”71

In 2002, a year after the 9/11 terrorist attacks, Congress combined 22 federal agencies, including FEMA, into a new Cabinet department — the Department of Homeland Security.

“FEMA’s director went from reporting directly to the president to being an underling of the DHS secretary,
1800s-1936 Government’s role in disaster response is sporadic, informal.

1803 First documented instance of federal aid in a local disaster occurs after fire destroys a New Hampshire community and Congress provides help.

1887 President Grover Cleveland vetoes an aid bill for drought-stricken Texas farmers because he could “find no warrant for such an appropriation in the Constitution.”

1936 Congress passes the Flood Control Act, which authorizes hundreds of flood-control projects.

1950-1974 Legislation formalizes government role in disaster relief.

1950 Congress passes the Disaster Relief Act, which establishes a permanent federal disaster-relief fund. Earlier disaster-relief funds were designated solely to repair local government facilities.

1968 Congress passes the National Flood Insurance Act, which provides insurance to property owners in communities that take steps to mitigate future flood damage.

1974 Disaster Relief Act of 1974 establishes the Federal Disaster Assistance Administration, a forerunner of the Federal Emergency Management Agency (FEMA), creating a system in which presidential declarations of emergencies or major disasters trigger federal disaster aid.


1979 President Jimmy Carter establishes FEMA, bringing together more than 100 programs from various departments and agencies for disaster mitigation and relief efforts.

1988 Congress enacts the Stafford Disaster Relief and Emergency Assistance Act, which allows governors to ask the president to declare an “emergency” or a “major disaster” if an event “is of such severity and magnitude that effective response is beyond the capabilities of the state and the affected local governments and . . . Federal assistance is necessary.”

2002 Following the Sept. 11, 2001, terrorist attacks in New York and Washington, Congress creates, at President George W. Bush’s urging, the Department of Homeland Security, consolidating 22 federal agencies, including FEMA.

2005-Present Disaster-relief failures in aftermath of Hurricane Katrina spur reforms.

2005 Hurricane Katrina strikes the Gulf Coast, killing 1,833 people in five states and costing an estimated $108 billion, making it the most expensive hurricane in U.S. history. FEMA is criticized over its response.

2012 Obama administration creates the National Preparedness System, a set of policies that establish preparedness methods by identifying core capabilities in federal and non-federal government agencies and provide a structure for agencies to integrate their response efforts. . . Congress passes the Biggert-Waters Flood Insurance Reform Act, which requires FEMA to phase out almost all discounted insurance premiums and eliminate coverage for properties that are repeatedly damaged by flooding.

2014 After widespread complaints about the Biggert-Waters Act, Congress passes the Homeowner Flood Insurance Affordability Act, which undoes most Biggert-Waters reforms.

2017 In late August, Hurricane Harvey, the first of three Category 4 hurricanes to slam into the United States in two months, hits Texas. In September, Hurricane Maria causes extensive damage in Puerto Rico. Congress responds in late October with a $36.5 billion aid package . . . In October, wildfires in northern California and other Western states kill dozens of people and destroy homes and businesses and cause heavy damage to California’s wine country. In December wildfires strike Southern California, causing widespread destruction in the Los Angeles area.

January 2018 Heavy rains in the Southern California region ravaged in December by wildfires trigger mudslides that kill at least 15 people, force thousands to evacuate and sweep away cars and homes.
Network Boosts First Responder Communication

“People had a hard time believing it works. We’re proof that it works.”

For the past three years, sheriff’s deputies in Brazos County, Texas, have been testing technology they say represents the future of first-responder communications after major disasters like Hurricane Harvey.

Sheriff Chris Kirk said the equipment allows his deputies to live-stream video, share pictures, track each other’s vehicles and look up jail records from the field.1

“People had a hard time believing it works,” he said. “We’re proof that it works.”2

The hardware that Kirk’s deputies are testing forms the heart of the First Responder Network Authority (FirstNet), which aims to begin operating nationwide by March. Congress created the network in 2012 to allow first responders from public safety departments around the country to communicate with each other during and after disasters.3

FirstNet officials say the system’s wireless broadband (high-speed internet access) network will avoid the problems caused by incompatible radio equipment after the Sept. 11, 2001, terrorist attacks in New York and Washington and Hurricane Katrina in 2005.4 In the immediate aftermath of the attacks, police in helicopters were unable to warn firefighters inside New York’s World Trade Center North Tower that the building was about to collapse. Such problems led the bipartisan 9/11 commission, created by Congress to investigate the circumstances leading up to the attacks and how the attacks were handled, to recommend that lawmakers pass legislation to expand the radio spectrum available to first responders. Communications were again a problem after Hurricane Katrina.5

FirstNet got off to a rocky start. In 2013, one of its board members raised concerns that other board members had failed to disclose potential conflicts of interest linked to their past ties to the wireless industry. A December 2014 report by the inspector general’s office for the Commerce Department, where FirstNet operates as an independent entity, said the network needed to do better monitoring of such conflicts.6

In response, FirstNet instituted what its chairwoman, Susan Swenson, called “a comprehensive and effective ethics program and . . . appropriate measures to help ensure first-rate procurement practices.”7

Disaster management experts and congressional lawmakers also have raised questions about whether FirstNet will be vulnerable to hacking, noting that a cyberattack on the system could have fatal consequences.8

FirstNet CEO Michael Poth told members of Congress last year the network was soliciting cybersecurity advice from the Homeland Security and Justice departments. “We’re going to do periodic inspections and audits, to make sure we’re meeting all the needs,” Poth said.9

All 50 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands opted into FirstNet. Three other U.S. territories — Guam, the Northern Mariana Islands and American Samoa — have until March 12 to decide.10

FirstNet is just one example of sweeping changes affecting public and private communications after disasters. Social media, for example, was still in its infancy when Katrina swamped New Orleans, but during last year’s record-setting hurricanes and wildfires, first responders used Twitter, Facebook and Google Maps.11

“The use of social media by people giving updates to local emergency officials was just amazing,” says John Pine, a research professor in geography and planning at the University of British Columbia, in Vancouver, British Columbia.

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Appalachian State University in Boone, N.C., and author of a book about technology and emergency management.

CrowdSource Rescue, an online platform that connects stranded storm victims with boat owners and other volunteers, helped facilitate more than 7,000 rescues in Houston during Hurricane Harvey. And emergency workers used Zello, a walkie-talkie app, to broadcast critical alerts during Hurricane Irma.12

Even with such tools, disaster management experts say, first responders need to communicate without having to compete for bandwidth with the general public. That is where FirstNet comes in.

Swenson said the goal is to allow law enforcement officers, firefighters and paramedics “to transition away from a patchwork of antiquated, analog systems and into a modern, digital communication environment.”13

AT&T won the 25-year contract to build the network, which the company promises will match the voice capabilities of traditional radios while providing a variety of new features, such as video sharing and mapping applications. Emergency workers, for example, will be able to use their smartphones to receive real-time visual information from a location where they are assigned to perform a rescue.14

FirstNet will pay AT&T $6.5 billion in federal funds to build out the network over the next five years. AT&T will invest about $40 billion of its own money to manage and operate the network over the life of the contract.

The company will charge public safety agencies for FirstNet subscription packages and for the apps and devices needed to use the network. It also can charge commercial users to use FirstNet’s spectrum when it is not needed by public safety officials.15

— Patrick Marshall


In March 2004, James Witt, who headed FEMA from 1993 to 2001, said he was “extremely concerned that the ability of our nation to prepare for and respond to disasters has been sharply eroded.”14

distracted from the mission, because we spent so much time and energy fighting for resources and working on reorganization. It just disintegrated our capacity.”73
As Disaster Threats Rise, More Cities Take Action

Planners urged “to steer development into safer locations.”

Residents of Miami Beach could see the effects of climate change nearly every time they went for a swim in the ocean. The beach was shrinking because of rising sea levels, and low-lying parts of the mile-wide island routinely flooded at high tide.

After Hurricane Sandy in 2012, city officials voted to begin a $400 million network of storm-water drains, pump stations and raised roads.

Experts see Miami Beach as a national leader in a growing movement by local governments to protect communities from natural disasters. California, particularly Santa Cruz, is another trendsetter, according to Ward Lyles, an assistant professor of urban planning at the University of Kansas.

Santa Cruz, which began implementing its Local Hazard Mitigation Plan in 2007, set five major goals:

- Reducing the risk of wildfires by cutting back vegetation near developed areas and enforcing codes.
- Upgrading sewer, water and other infrastructure to withstand earthquakes.
- Protecting water systems and reservoirs from landslides.
- Protecting coastline and coastal infrastructure from storms and rising seas.
- Controlling development in floodplains.

“To reduce long-term risk of economic disruption, social disruption, as well as property damage, [local planners] need to steer development into safer locations, and that can be done through land-use planning approaches,” says Lyles, who recently completed a study of 51 cities that have adopted climate change action plans.

Because land use is not regulated federally, local governments have to be the leaders in reducing long-term risks from natural disasters, he says. Recognizing the critical role that communities play, Congress in 2000 passed the Disaster Mitigation Act, which provides incentives for state and local government to coordinate mitigation planning.

But a number of experts say many communities still place development ahead of disaster planning. In Miami, across the Biscayne Bay from Miami Beach, a building boom continues, despite frequent hurricanes and rising seas. “Real estate developers, by their nature, are gamblers with short planning horizons,” said Robert Meyer, co-director of the University of Pennsylvania’s Risk Management and Decision Processes Center, which studies public policy.

Houston is another example, experts say. The largest U.S. city with no zoning laws, it allowed growth to proceed unchecked in recent decades.

“How Houston is the Wild West of development, so any mention of regulation creates a hostile reaction from people who see that as an infringement on property rights and a deterrent to economic growth,” said Sam Brody, director of the Center for Texas Beaches and Shores, which researches coastal sustainability, at Texas A&M University. “The storm-water system has never been designed for anything much stronger than a heavy afternoon thunderstorm.”

Katrina Shortcomings

FEMA’s public image hit a new low in 2005 based on reports that the agency waited too long to assist victims of Hurricane Katrina after flooding from the storm overwhelmed levees in New Orleans; repeatedly blocked or delayed delivery of emergency supplies and services by charitable groups, the Coast Guard and doctors; and refused Amtrak’s offer to evacuate victims.

The storm killed 1,833 people in five states and caused an estimated $108 billion in property damage, making it the costliest hurricane in U.S. history.
Houston suffered catastrophic flooding after Hurricane Harvey dropped more than 50 inches of rain on the area last fall. Experts said the city would have fared better had it built better storm-water systems and barred development in flood-prone areas.8

One of the biggest challenges facing communities, Lyles says, is to recognize the connection between climate change and natural disasters and prepare for both. Policymakers working on climate change issues tend to be trained in environmental sciences, he says, while hazard mitigation specialists tend to be ex-managers from fire departments, police departments or the military. The disconnect leads to a lack of policy coordination, he says, resulting in poor disaster planning and development in vulnerable areas.

Other experts urge localities to improve their flood control by taking such simple steps as updating their flood maps, which many places neglect to do. “It’s important that we do the research into how much rainfall could we get, how the watersheds are going to respond to that rainfall event, how deep, who will it impact,” said Jerry Cotter, chief of water resources for the U.S. Army Corps of Engineers. “We’ve got to do the preparedness work.”9

Lyles advises communities to use local planners as mediators between officials with environmental concerns and managers charged with hazard mitigation. “Planners can be a really great bridge between sustainability [and] environmental focus and the emergency-management focus because planners are trained to integrate knowledge from lots of different places,” says Lyles. “That’s a critical hinge between these two communities that is often disconnected.”

— Patrick Marshall

3 Allen, op. cit.

At the time, President George W. Bush famously told Brown, “Brownie, you’re doing a heck of a job,” a comment that FEMA’s critics said showed the administration’s lack of regard for the thousands of Katrina victims taking shelter in New Orleans’ Superdome. Ten days later, Brown resigned.77

In the immediate aftermath of the hurricane, Sen. Mary Landrieu, D-La., charged that “FEMA, now a shell of what it once was, continues to be overwhelmed by the task at hand.”78

The select, bipartisan committee appointed by Congress to investigate the response to Katrina said
“there was no shortage of plans . . . but there was not enough plan-ning.”

The Obama administration instituted a number of changes at FEMA. The agency established eight major logistics centers across the country, as well as 50 additional supply caches belonging to its National Disaster Medical System and 252 prepositioned containers of disaster supplies in 14 states.

In 2012, the Obama administration also created the National Preparedness System, a set of policies that established methods for achieving disaster readiness by identifying core capabilities in federal, state and local government agencies.

Congress acted a year later to address another problem revealed by the Sept. 11, 2001, terrorist attacks and by Katrina — the inability of first responders to communicate with each other because their radios operated on different frequencies. In February 2012, lawmakers approved legislation creating FirstNet, an independent authority within the Commerce Department charged with building and operating a nationwide broadband network exclusively for first responders.

The same year, Congress passed the Biggert-Waters Flood Insurance Reform Act, which aimed to stem the mounting financial losses at the National Flood Insurance Program. The act required FEMA to phase out almost all discounted insurance premiums, eliminate coverage for properties rebuilt again and again after disasters and establish a reserve fund. “As implementation proceeded, however, affected communities raised concerns about some Biggert-Waters Act requirements,” the GAO noted.

In response, Congress in 2014 undid most of the Biggert-Waters reforms, including reviving premium subsidies.

Lawmakers also directed FEMA to study another way to bring insurance premiums in line with actual risks: voluntary community-based flood insurance offered by private insurers. FEMA ultimately rejected that option for a variety of reasons, including the difficulty of getting insurers to charge affordable premiums.

Congressional authorization for the National Flood Insurance Program, which needs to be renewed every five years, was up for renewal on Sept. 30. In early September, while hurricanes were battering Texas and Puerto Rico, Congress extended the deadline until Dec. 8, then again to Dec. 22 and most recently to Jan. 19.

CURRENT SITUATION
Changes under Trump

President Trump’s proposed fiscal 2018 budget would reduce federal disaster relief spending by about 9 percent, affecting programs not only at FEMA but at other agencies as well. The cuts would eliminate:

- $667 million that FEMA distributes as grants to help state and local governments prepare for natural disasters and other emergencies;
- $190 million that the National Flood Insurance Program uses to map flood-prone areas;
- About $200 million from programs at the National Oceanic and Atmospheric Administration that help coastal states brace for climate change and dangerous climate and weather events;
- The Department of Housing and Urban Development’s Community Block Grant Program, which has provided more than $50 billion since 1993 to help with long-term disaster relief. “The program is not well-targeted to the poorest populations and has not demonstrated a measurable impact on communities,” the White House said.

In August, Trump also struck down the Obama-era Federal Flood Risk Management Standard, which had required that building projects in line for federal funding take climate change into account — by elevating structures in flood zones, for example. The rule had aimed to mitigate the costs to taxpayers of damage claims under the National Flood Insurance Program.

Republicans opposed to government regulation cheered Trump’s order, but floodplain managers, environmental activists and some conservatives bemoaned it. “This executive order is not fiscally conservative,” said Rep. Carlos Curbelo, R-Fla. “It’s irresponsible, and it will lead to taxpayer dollars being wasted on projects that may not be built to endure the flooding we are already seeing and know is only going to get worse.”

In mid-November, the Trump administration asked Congress for an additional $44 billion in emergency hurricane relief funds on top of the approximately $52 billion lawmakers already had approved. Members of Congress from both sides of the aisle...
criticized the request as inadequate, and House Republicans recommended spending $81 billion to help states affected by last year’s hurricanes and wildfires. That proposal has passed the House and is awaiting Senate action.88

**FEMA’s “Deductibles” Plan**

Last year’s natural disasters have focused new attention on how FEMA encourages state mitigation programs and determines levels of aid. One FEMA proposal, known as “disaster deductibles,” would require states to spend a set amount each year on emergency management and disaster readiness to be eligible for FEMA Public Assistance funds to repair or replace infrastructure damaged in a disaster.

The deductibles would be based on each state’s financial circumstances and disaster risks and would not affect eligibility for other FEMA aid.89

States could reduce their deductible by imposing tougher building codes, buying insurance for their facilities or taking other steps to better prepare for disasters.90 “The premise is good,” FEMA administrator Long told reporters.91

The Center for American Progress, a liberal think tank in Washington, also has backed the idea, indicating that it would “help lower the public health risks and costs of future disasters.”92

But state and local officials have resisted the proposal, saying it would put additional administrative and financial burdens on local governments.

“Disaster assistance administrators at the state and local level are already overburdened, particularly in the aftermath of a major disaster,” the National Governors Association said. The current disaster aid system, it said, is already “complex and time-consuming.”93

The National Association of Counties and the U.S. Conference of Mayors said in a joint statement that disaster deductibles would potentially violate federal law requiring FEMA to pay at least 75 percent of the cost of disaster-related expenses such as infrastructure repairs and debris removal.94

Linda Langston, director of strategic relations at the National Association of Counties, said the proposal accounts for state contributions toward disaster mitigation but not local contributions. “It would actually end up penalizing local governments,” she says.

A FEMA spokesperson declined to discuss the agency’s plans regarding disaster deductibles.

**Fixing Flood Insurance**

Finding a way to make the National Flood Insurance Program financially viable is another major issue facing FEMA. Experts say that will require adjusting premiums to more accurately reflect flood risks and halting the practice of financing repeated reconstruction of homes and businesses in flood-prone areas.

“Flood damage at a 300-unit Roanoke Valley, Virginia, apartment complex cost the program more than $10.5 million over nine years, and a $69,000 Mississippi home flooded 34 times in 32 years, resulting in $663,000 in claims,” the Pew Charitable Trusts reported in 2016.95

Long said in August, just before Hurricane Harvey, that taxpayers shouldn’t have to pay to rebuild such properties and that FEMA should remove them from the NFIP. “There are a handful of properties that create a large portion of that cost burden,” Long said. “We’ve got to start there, and at some point cut that off.”96

He did not say how FEMA might do that, but in some cases, the agency buys out property owners so it can tear a structure down.97

The NFIP’s heavily subsidized premiums are another reason the program is billions of dollars in debt, but...
Should the National Flood Insurance Program be discontinued?

**YES**

Diane Katz  
Senior Research Fellow in Regulatory Policy,  
Institute for Economic Freedom, Heritage Foundation

Written for CQ Researcher, January 2018

Despite a $16 billion bailout in October, the National Flood Insurance Program (NFIP) remains debt-ridden and dysfunctional. Reforms pending in Congress will not remedy its structural flaws. The best course of action is to allow private insurers to replace the government’s flood insurance monopoly.

The NFIP’s insolvency is a consequence of its architecture. As noted by the Government Accountability Office, the rate structure was not designed to be actuarially sound, nor to generate sufficient revenue to fully cover losses. Even before hurricanes Harvey and Irma, the NFIP was $25 billion in debt.

The annual shortfall runs about $1.4 billion, according to the Congressional Budget Office (CBO). About half of that reflects the difference between premium revenue and the costs of servicing policies and paying claims.

Congress approved more rational rates in 2012 but reneged two years later at the behest of the congressional “flood caucus” and the local officials and property owners who benefit from the subsidies.

Meanwhile, some 49 percent of the NFIP flood-risk maps are obsolete, and thus the premiums charged do not reflect actual risk. And because property owners do not bear the full cost of flood risk, they are more likely to locate in flood-prone areas and less likely to undertake preventive measures.

The CBO found that NFIP policyholders tend to live in census tracts in which median income is higher than the national average. The use of taxpayer funds to subsidize the lifestyle preferences of a select few who live in or near flood zones is inherently unjust.

Congress largely withheld discretion on issuing policies from the NFIP. Consequently, a relatively small number of “repetitive loss properties” are responsible for a disproportionate share of claims — some exceeding the value of the house.

With direct access to the U.S. Treasury, the NFIP’s administrative costs are predictably excessive — more than one-third of premiums are paid to the private insurers who sell and service the policies but hold no risk liability.

Private insurers are interested in underwriting wide swaths of properties in flood zones. Opponents claim insurers will cherry-pick customers, but that has not been the case in Florida, where most private companies are writing insurance in higher hazard areas.

Tinkering with operational reforms cannot remedy a program designed to be financially unsound. A private market in flood insurance is the ultimate solution.

**NO**

Roy E. Wright  
Deputy Associate Administrator, Federal Insurance and Mitigation Administration, Federal Emergency Management Agency

Excerpted from testimony before the Senate Committee on Banking, Housing and Urban Affairs, March 14, 2017

Ninety percent of natural disasters in the United States involve a flood. Homeowners insurance does not typically include coverage in the event of flooding, and historically flood insurance was not widely available. If it was, it was very expensive. Congress established the [National Flood Insurance Program] (NFIP) in 1968, which FEMA’s Federal Insurance and Mitigation Administration (FIMA) administers.

The NFIP functions like other insurance programs, in which policyholder premiums help cover insured losses. Flood insurance helps homeowners recover following a flood. For example, following the flooding in Louisiana in August 2016, insured survivors filed 29,557 claims and, to date, the NFIP has paid more than $2.3 billion in claims.

FEMA also created the NFIP Community Rating System (CRS) in 1990 as a voluntary program for recognizing community floodplain management activities that exceed the minimum NFIP standards. More than 1,400 communities participate in the CRS, accounting for 3.8 million policyholders. Under the CRS, FEMA discounts NFIP policyholders’ flood insurance premium rates to reward community actions that meet the three goals of the CRS, which are: (1) reduce flood damage to insurable property; (2) strengthen and support the insurance aspects of the NFIP; and (3) encourage a comprehensive approach to floodplain management. Lower flood insurance rates are just one of the benefits of joining the CRS: CRS floodplain management activities also provide enhanced public safety and reduced damage to property.

Flood insurance facilitates the ability of a property owner or renter to recover after a flood, whether the insurance is provided by the NFIP or private insurers. FEMA recognizes that there is a growing interest by private insurers to offer flood insurance protection. FEMA supports this because an insured survivor — regardless of where they purchase their coverage — will recover more quickly and more fully.

Two related areas require attention. First, it will take time for the private market to adapt to a market currently primarily served by a public program. Second, if the private market were to glean only the lower-risk policies, the NFIP would be left with all of the highest-risk policies. This could lower NFIP premium revenue while increasing potential claims payouts. Such actions would leave the program and taxpayers with even more financial risk.
Kendra at the University of Delaware’s Disaster Research Center warns against raising rates too high. “It can’t be like it was with the Biggert-Waters Act of 2012, which was going to raise people’s prices thousands of dollars,” he says.

Congress, controlled by Republicans, appears conflicted on how to put the flood program on solid financial ground. The House Financial Services Committee passed a package of seven bills in June to reauthorize the NFIP and increase premiums, among other changes. But in July, 26 House Republicans indicated they would not support the package. Republicans from coastal states have rejected proposals to raise premium caps to $18,000.98

In November, the House passed legislation that would extend the NFIP for five years, cap premium increases at 15 percent, end the requirement that owners of commercial buildings and multifamily dwellings buy flood insurance, and make it easier for homeowners to buy flood insurance from the private sector. The Senate has not yet taken up the bill.99

“People should gradually — gradually — be expected to pay actuarial rates,” said House Financial Services Committee Chairman Jeb Hensarling, R-Texas. “They need predictability. We need to protect them from sticker shock, but the program must be made sustainable.”100

A bipartisan Senate proposal introduced in June would extend the NFIP for 10 years, increase funding for pre-disaster and flood mitigation assistance programs, provide vouchers to subsidize premiums for eligible property owners, preserve funding for flood mapping, and enhance the role of the private sector in the flood insurance market.101

Another bipartisan proposal, co-sponsored by senators from coastal states, calls for calculating premiums based on each property owner’s finances and capping rate increases at 10 percent per year.102

“I don’t know if 10 percent is the right number, but the point is, you have to have the insurance for the near term and you have to have it at rates that are something like where they are now,” says Feinman, the Rutgers University insurance law expert.

Neither of the Senate bills has made it out of committee, and prospects for passage are uncertain. Meanwhile, adjusting flood insurance premiums will be difficult without first redrawing FEMA’s badly outdated flood maps, experts say.

Larson, the former director of the Association of State Floodplain Managers, called FEMA’s flood maps “woefully incomplete” when he testified before Congress in March. He said the agency needs between $4.5 billion and $7.5 billion “to provide maps for every community in the nation that would cover all unmapped areas and to update existing but very outdated maps.”103

Trump’s proposal to cut $190 million from FEMA’s flood mapping program shows the administration has other priorities, critics say. The Consumer Federation of America said the cuts would result in higher insurance rates or more homebuilding in risky locations. But the administration said FEMA should “explore other more effective and fair means of funding flood mapping efforts.”104

OUTLOOK
Climate Change Worries

Hurricanes, wildfires and other events linked to climate change could cost the U.S. government an additional $9 billion to $28 billion per year by the end of the 21st century, according to the Office of Management and Budget and the Council of Economic Advisers, which advises the president on economic policy.105

But President Trump continues to express skepticism that climate change is an urgent issue. In a Dec. 28 tweet, he noted that the East was in for a cold New Year’s Eve and said, “Perhaps we could use a little bit of that good old Global Warming that our Country, but not other countries, was going to pay TRILLIONS OF DOLLARS to protect against.”106

The administration’s reluctance to accept the role that human activity plays in climate change is hampering efforts to prepare for natural disasters, many experts warn.

Michael Crimmins, an environmental scientist at the University of Arizona, said FEMA continues to base its yearly budget and activities almost entirely on historical natural disaster records rather than on the expected impact of climate change.

“But climate change is affecting everything the agency does, and yet it isn’t given much consideration,” said Crimmins, who is leading a project aimed at improving FEMA’s use of climate science.107

A FEMA spokesperson said the agency “is attuned to changes that impact future disasters — including the
built environment, human behavior and variations in climate patterns.”

But Kendra at the University of Delaware’s Disaster Research Center says “science itself is under siege” by the Trump administration. “The whole idea that anybody has particular expertise and should be listened to is being destabilized,” he says. “And that definitely affects disaster preparedness and how we talk about risk.”

Global warming already has increased the frequency and severity of droughts and wildfires, according to scientists.108

Irwin Redlener, director of the National Center for Disaster Preparedness at Columbia University, agrees that the White House is ignoring climate change at the country’s peril. “The White House seems to be very, very proactively and rapidly cutting every bit of science that we need to guide policy,” he says.

Technology, meanwhile, will play an increasingly vital role after disasters, experts say. During Hurricane Harvey, for example, Houston residents could go online to find out which parts of the area’s intricate bayou system were overflowing.109

First responders are relying more and more on drones to survey areas rendered inaccessible by a disaster, and utility companies use them to inspect damage to cell towers. After Hurricane Maria battered Puerto Rico, NASA used special satellite technology to map the location of power outages, then relayed the information to first responders.110

Social media continues to evolve as an indispensable resource for first responders and disaster victims. In September, Facebook unveiled Crisis Response, which will act as a hub for the company’s safety-related tools.111

In addition, researchers in Holland have figured out how to use Twitter to create detailed, real-time flood maps, which could eventually change how disaster response agencies handle major storms.112

“A tweet from someone stranded in their house as floodwaters grow is this generation’s emergency flare gun,” said geologist Trevor Nace, founder of an online platform where experts share their views.113

NOTES


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Books


A lecturer in politics in the Department of Political Economy at King’s College London explores the development of public-private partnerships focused on disaster response from the late 1990s through 2005 and explains why attempts to develop these partnerships have largely fallen short.


A former chief of staff at the Federal Emergency Management Agency (Haddow) and his colleagues at a disaster consulting firm in Virginia assess emergency management tools and government emergency management policies.


A professor of geography and planning at Appalachian State University offers an authoritative guide to best practices in using technology to manage hazards and disasters.

Articles


Three Arizona State University researchers examine the 2003 restructuring of the Federal Emergency Management Agency (FEMA) under the Department of Homeland Security (DHS) to determine its impacts on FEMA’s hurricane disaster relief.


Two tax attorneys argue that taxpayers shouldn’t foot the bill for disaster relief in Texas because the state skimped on funding mitigation efforts and regulating development in flood-prone areas.


A contributing editor to this online publication gives a fascinating account of FEMA’s early years, when its task was primarily preparing for nuclear war.


FEMA’s misleading claims on the availability of potable water in the wake of Hurricane Maria threaten to “mask major health threats and hamstring a robust federal response” on the island, according to the Natural Resources Defense Council, an environmental advocacy group.


A look at the problems affecting the financially troubled National Flood Insurance Program and calls to reform it.
Reports and Studies


This 362-page report on Hurricane Katrina, commissioned by Congress, finds a failure of leadership and initiative by local, state and federal authorities.


The federal government’s watchdog agency offers an accounting of funds spent on disaster assistance and predicts costs will grow significantly because of climate change.


The research arm of Congress details how federal agencies deliver disaster aid and administer programs designed to mitigate damage from future disasters.


A liberal policy institute examines problems with FEMA and other agencies that handle disaster response — including slow reaction times and lack of emphasis on hazard mitigation — and recommends legislative and other changes.


The Congressional Research Service explains the disaster declaration procedure and covers the criteria that events must meet to qualify for federal aid.

For More Information

Center for American Progress, 1333 H St., N.W., 10th Floor, Washington, DC 20005; 202-682-1611; www.americanprogress.org. Liberal think tank that focuses on an array of public policy issues, including infrastructure and disaster mitigation.


National Association of Counties, 660 N. Capitol St., N.W., Suite 400, Washington, DC 20001; 202-393-6226; www.naco.org. Professional organization that advocates on issues important to county governments, including disaster management.

National Center for Disaster Preparedness, Earth Institute, Columbia University, 215 W. 125th St., Suite 303, New York, NY 10027; 646-845-2300; ncdp.columbia.edu. Academic research organization focused on improving the nation’s capacity to prepare for, respond to and recover from disasters.


National Governors Association, 444 N. Capitol St., N.W., No. 267, Washington, DC 20001; 202-624-5300; www.nga.org. Bipartisan organization of the nation’s governors that advocates on issues of importance to states, including disaster readiness.