



People walk down a flooded street as they evacuate their homes after the area was inundated with flooding from Hurricane Harvey on August 28, 2017 in Houston, Texas.

*Joe Raedle/Getty Images*

# 9

## HURRICANES HARVEY, IRMA, AND MARIA

### U.S. Disaster Management Challenged

**F**or the United States and its territories, 2017 was a record-breaking hurricane year. It brought 10 hurricanes, which collectively inflicted an estimated \$265 billion in damage.<sup>1</sup> Hurricanes Harvey, Irma, and Maria of that year truly tested the capacities of federal, state, and local emergency management. During the responses to each, the U.S. Department of Homeland Security and its Federal Emergency Management Agency (FEMA) mobilized disaster assistance volunteers, a

**“surge” workforce**<sup>2</sup> of volunteering federal workers detailed from inside and outside of the department for up to 45-day assignments, plus an immense and largely corporate contractor force, and the altruistic nonprofit organizations so intrinsically part of disaster response and recovery. A host of other federal agencies, including the U.S. Army, Air Force, and Navy, worked the disasters as well. Impacted states and territories, along with their respective local governments, worked feverishly to address the escalating needs of their victims and communities, while they awaited much needed federal post-disaster assistance. The National Response Framework provided a schematic overlay about how the nation would respond, and the National Incident Management System guided the organization of the actual response in the field. However, all did not run flawlessly.

Hurricanes Harvey, Irma, and Maria struck one after the other, each about two weeks apart, lasting from mid-August to mid-September in 2017. On top of this, almost simultaneously, part of the nation also had to contend with record-breaking wildfires. Across the American West, particularly in California, several fires incinerated not just remote woodland homes but entire housing subdivisions. These disasters tested the new Trump administration, which had only been in office since mid-January of 2017. As Hurricane Harvey was about to strike, President Donald J. Trump had dutifully signed presidential declarations of emergency for the affected states and territories. He did this for each hurricane, and after each made landfall, he promptly issued major disaster declarations for the states and territories impacted by these disasters. He responded very much as preceding presidents had done for disasters of catastrophic proportions since the early 1950s. President Trump even reduced the state and local cost share that Puerto Rico, Texas, and Florida had been expected to pay under several FEMA sub-programs.<sup>3</sup> President Trump and Vice President Mike Pence eventually traveled together and separately to the scenes of the three major hurricane disasters. For each one, they offered support, encouragement, and small acts of kindness. Again, this was comparable to what presidents and vice presidents had done for decades whenever mega-disasters struck some part of the nation.

However, one thing turned out being uniquely different. President Trump, having learned that the mayor of San Juan, Puerto Rico, had overtly criticized both him and FEMA by claiming their response to Hurricane Maria devastation in Puerto Rico was too slow, retaliated in kind. In his reply, the president went so far as to seemingly threaten the commonwealth with an early federal departure. He intimated that the people of Puerto Rico needed to do more to help themselves, and he judged the mayor's remarks as a sign of ingratitude. No American chief executive, since presidential declaration authority was granted in 1950, had ever publicly issued such a threat, although a few presidents before Trump had had disputes with various governors in the aftermath of disaster. Even though the flap was short-lived national news, it shocked the emergency management community. A portion of this chapter will examine this dispute and its implications.

Chapter 9 of the second edition of this book was all about victim compensation after the 9/11 attacks of 2001. This edition's Chapter 9 looks into some aspects of post-hurricane victim compensation offered and conferred after Harvey, Irma, and Maria. In the Obama years, FEMA sought to become more “victim-centric.” However, as previous chapters have made apparent, U.S. emergency management before 2014 is NOT the same as in 2016 and beyond. This chapter asks whether the dramatic changes that both FEMA and DHS have undergone in policy and management since 2014 have affected in meaningful ways post-disaster government assistance to victims in 2017 and beyond.

By one measure of activity called the ACE (**Accumulated Cyclone Energy**) index, which adds each tropical storm or hurricane's wind speed through its life cycle, the 2017 season is among the top 10 in cumulated full-cycle wind speed.<sup>4</sup> Through September 30, after the demise of former Hurricane Maria, 2017 was already the ninth most active Atlantic hurricane season of record, according to statistics compiled by Dr. Phil Klotzbach, a Colorado State University tropical meteorologist. Long-lived, intense hurricanes have a high ACE index, while short-lived, weak tropical storms have a low value. The ACE of a season is the sum of the ACE for each storm, and it takes into account the number, strength, and duration of all the tropical storms and hurricanes in the season.<sup>5</sup> According to a National Hurricane Center report, only 1933 and 2004 had a faster ACE pace through the end of September than 2017.<sup>6</sup>

## IMPACT AND DECLARATIONS: HURRICANE HARVEY

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Texas is the second largest U.S. state by land area, and it has an extraordinary 254 counties, some of which have histories dating back to Spanish rule. Texas is the second most populous state in the nation, with some 28.7 million residents. It has three cities that exceed 1 million in population: Houston with 2.2 million, San Antonio with 1.4 million, and Dallas with 1.3 million.<sup>7</sup>

**Hurricane Harvey** wreaked havoc on the Texas coast, dumping more than 50 inches of rain in parts of the Houston area, flooding thousands of homes and killing more than 80 people. Figure 9-1 shows Texas counties included in President Trump's major disaster declaration (DR 4332) as of October 17, 2017. It also shows the categories of assistance available to each county.<sup>8</sup> Figure 9-2 shows accumulated five-day point rainfall totals over eastern Texas, a small portion of southwestern Louisiana, and for many Gulf Coast counties.

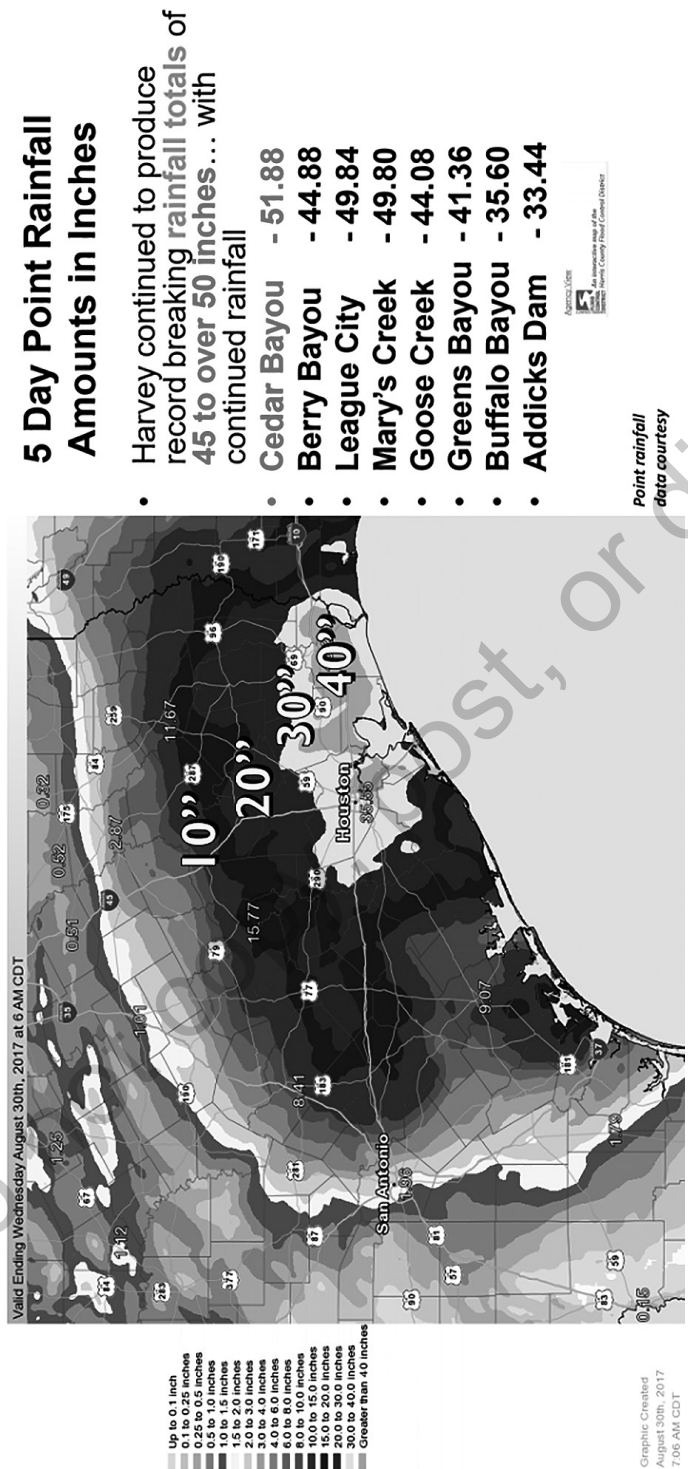
Louisiana is home to some 4.5 million people. It has 64 parishes, which are comparable to counties in most other states. The *New York Post* reported that "Tropical Storm Harvey made an unwelcome return to a devastated region early Wednesday—this time hitting Louisiana, a state that was ravaged by 2005's Hurricane Katrina. The relentless storm made landfall just west of the town of Cameron, according to the National Hurricane Center, with 'flooding rains' drenching parts of southeastern Texas and neighboring southwestern Louisiana. Harvey is expected to produce as much as 10 more inches of rain over an area about 80 miles east of the paralyzed city of Houston as well as western Louisiana. Maximum sustained winds of about 45 mph also are in store."<sup>9</sup>

Louisiana suffered damage from Hurricane Harvey, and President Trump first granted the state an emergency declaration and later a major disaster declaration. Figure 9-3 shows the counties included in the declaration and, as in the Texas case, the types of disaster aid made available to each county. Under declaration DR-4345, according to Figure 9-3, nine parishes were eligible to receive FEMA's Public Assistance aid as well as FEMA's Individual Assistance program assistance. With the exception of St. Charles Parish near New Orleans, most of these counties were located in the southwestern portion of the state. Some 11 parishes along the Gulf and further inland received FEMA Public Assistance only.



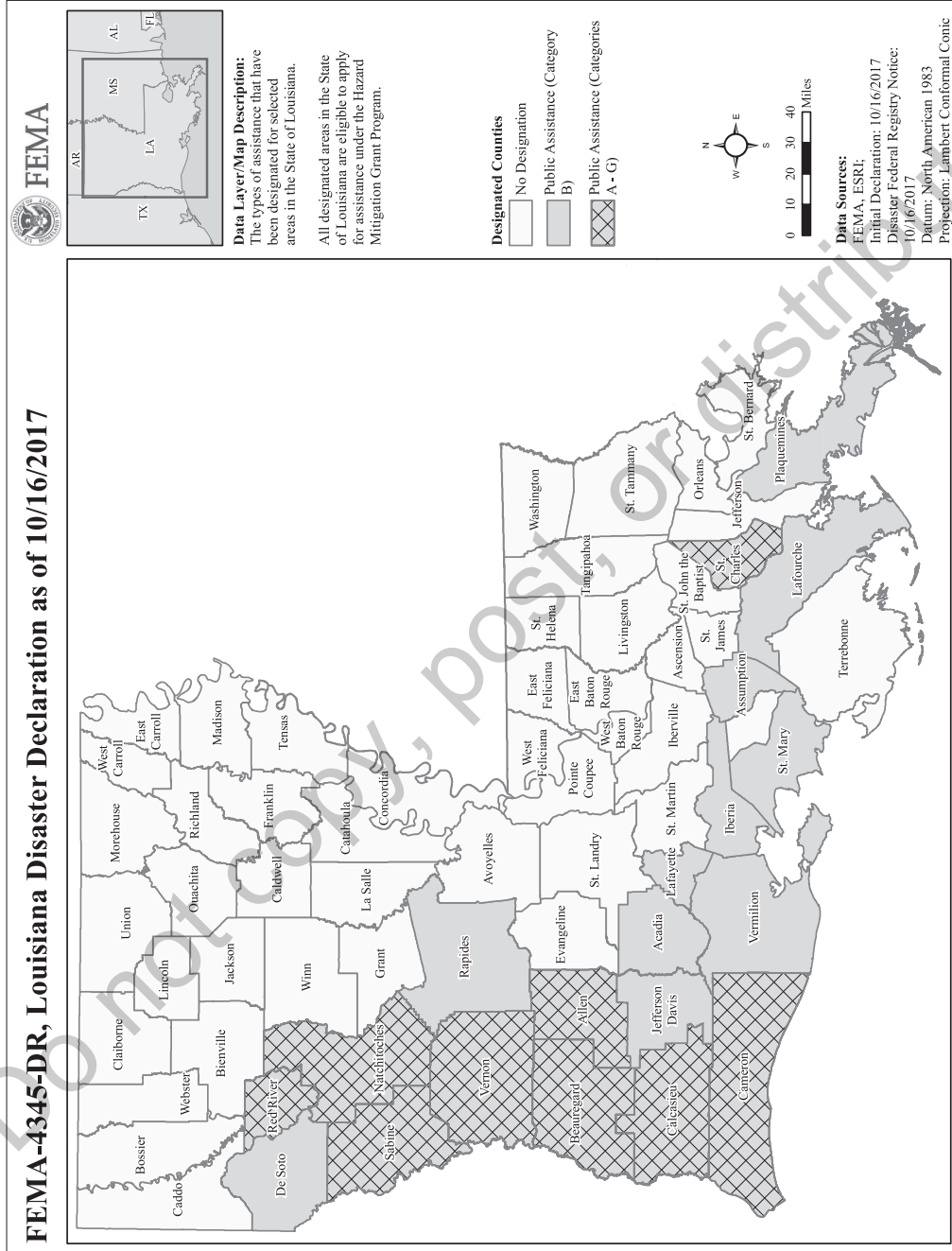


**FIGURE 9-2 ■ Five-day Point Rainfall Totals in Inches for Hurricane Harvey along East Texas Gulf Coast**



Source: National Weather Service, courtesy of the West Gulf River Forecast Center, <https://www.weather.gov/hgx/hurricaneharvey> (accessed September 12, 2018).

**FIGURE 9-3** ■ Louisiana Counties Included in Presidential Declaration of Major Disaster DR-4345 for Hurricane Harvey Damage and Its Effects with Types of Assistance Made Available



Source: FEMA, "Louisiana Tropical Storm Harvey (DR-4345)," Incident Period: August 28, 2017 - September 10, 2017 with Major Disaster Declaration declared on October 16, 2017, <https://www.fema.gov/disaster/4345> (accessed June 22, 2018).

## IMPACT AND DECLARATIONS: HURRICANE IRMA

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As of July 1, 2017, the U.S. Census Bureau estimated Florida's entire state population at just under 21 million. Florida has over 9.4 million housing units, of which 64.8 percent are owner occupied.<sup>10</sup> The state has a 1,350-mile-long coastline, second only to Alaska's in total length.<sup>11</sup> Florida's coastal areas are where most of its population resides. Of Florida's 67 counties, 5 have populations that exceed 1 million: Miami-Dade has 2,751,796; Broward 1,935,878; Palm Beach 1,471,150; Hillsborough 1,408,566; and Orange County 1,348,975.<sup>12</sup>

**Hurricane Irma** began its journey as a tropical storm on August 30, 2017, in the Atlantic just west of the Cape Verde Islands. Over the next 10 days, it grew into a Category 5 hurricane with a maximum sustained wind of 185 mph. The storm moved through parts of the Caribbean Islands, including Puerto Rico and between Cuba and Florida. Eventually the hurricane turned northwest and impacted the Florida Keys and areas near Naples, Florida; then it generally followed Interstate 75 north through the entire Florida peninsula. Hurricane Irma then moved into Georgia, Alabama, and Tennessee, prompting the first ever Tropical Storm warnings for Atlanta, Georgia. Both Georgia and Alabama applied for, and won, presidential declarations of major disaster.

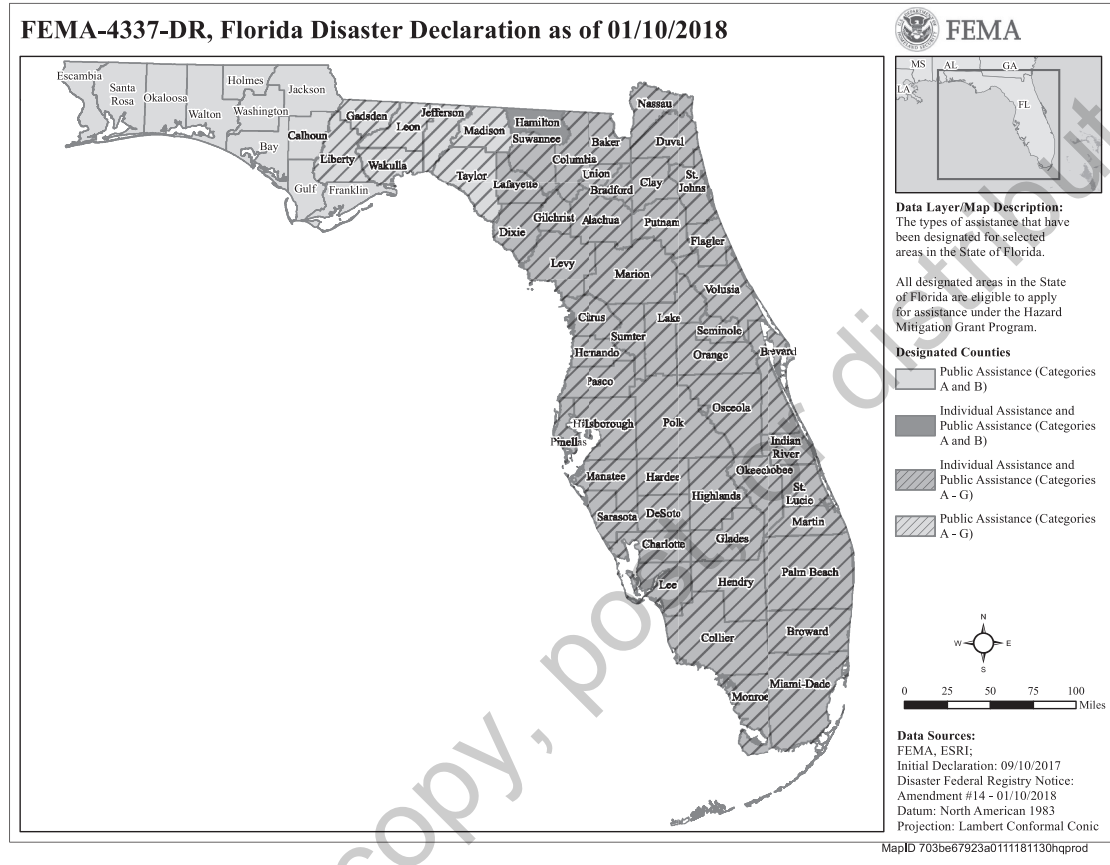
Hurricane Irma hit Florida as a Category 4 storm the morning of September 10, 2017, ripping off roofs, flooding coastal cities, and knocking out power to more than 6.8 million people. By September 11, Irma weakened significantly to a tropical storm as it powered north. At 11 p.m. later that day, it weakened further to a tropical depression, and by September 13, it had dissipated over western Tennessee.<sup>13</sup> The storm and its aftermath killed at least 38 in the Caribbean, 34 in Florida, 3 in Georgia, 4 in South Carolina, and 1 in North Carolina. Irma is the fifth-costliest hurricane to hit the mainland United States, causing an estimated \$50 billion in damage, according to the National Hurricane Center.<sup>14</sup>

Florida's landfalling Hurricane Irma impacted all the counties of the state, but most of the damage that occurred in the state's panhandle counties was light, relative to counties to the east. Irma's path was south to north, first blasting the Florida Keys, and then tracking northward almost through the center of the peninsular state. Figure 9-4 displays Florida counties impacted by Hurricane Irma and includes the types of federal assistance they were eligible to receive.<sup>15</sup>

Before moving on to consider the impact and declarations for Hurricane Maria and the Virgin Islands, remember that Irma had caused considerable damage in Puerto Rico over September 6, 2017, and in the Virgin Islands just before that. It reportedly left 1 million in that commonwealth without power as Irma brushed the northern coast of Puerto Rico.<sup>16</sup>

Florida has experienced many hurricanes in the past, and with the exception of various newcomers, many Floridians know how to heed hurricane warnings, how to prepare, how to effect evacuation or sheltering, and how to demobilize. Florida, like Texas, has a sophisticated state emergency management agency, and many of its localities employ capable emergency managers and responders. One of the success stories of the Irma experience in Florida was an "after-action-report" by the state health department chronicling how senior citizen, assisted living, health care, and special needs facilities carried out their emergency plans.<sup>17</sup>

**FIGURE 9-4 ■ Florida Counties Included in Presidential Declaration of Major Disaster DR-4337 for Hurricane Irma Damage and Its Effects with Types of Assistance Made Available**



Source: FEMA, "Florida Hurricane Irma (DR-4337)," Incident Period: September 04, 2017–October 18, 2017 with Major Disaster Declaration declared on September 10, 2017, <https://www.fema.gov/disaster/4337> (accessed June 22, 2018).

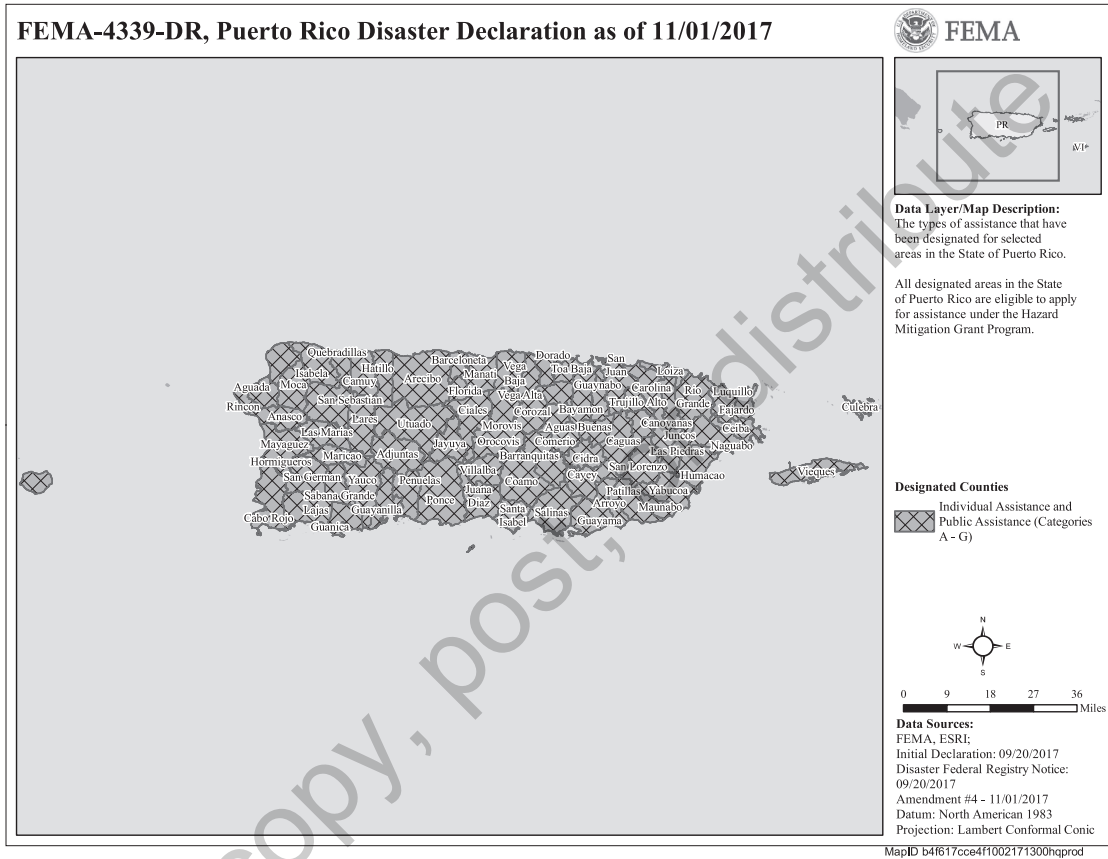
## IMPACT AND DECLARATIONS: HURRICANE MARIA

Before Hurricanes Irma and Maria struck, Puerto Rico had an estimated July 1, 2017, population of 3.34 million, representing a 10.4 percent population loss since the 2010 U.S. Census.<sup>18</sup> The U.S. Census Bureau does not provide a 2017 housing total for Puerto Rico, but it does indicate that between 2012 and 2016, there were 1.24 million households and that owner-occupied housing was 68.6 percent of all housing.<sup>19</sup>

Recall that Hurricane Harvey struck the eastern coastal areas of Texas, most particularly areas in the Houston metroplex. Hurricane Irma ran a path of destruction up the entire peninsula of Florida but did less damage in its panhandle counties. In contrast,



**FIGURE 9-5 ■ Puerto Rico Counties Included in Presidential Declaration of Major Disaster DR-4339 for Hurricane Maria Damage and Its Effects with Types of Assistance Made Available**



Source: FEMA, "Puerto Rico Hurricane Maria [DR-4339]," Incident Period: September 17, 2017–November 15, 2017 with Major Disaster Declaration declared on September 20, 2017, <https://www.fema.gov/disaster/4339> [accessed June 22, 2018].

**Hurricane Maria** devastated every single county of Puerto Rico. Figure 9-5 confirms the impact of Hurricane Maria in terms of county-level political geography.<sup>20</sup>

The storm made landfall on September 20, wreaking havoc on the island and causing a level of widespread destruction and disorganization almost unparalleled in America's hurricane history. Two weeks after the storm abated, most of the island's residents still lacked access to electricity and clean water.<sup>21</sup>

From a meteorological standpoint, Maria was a worst-case scenario for the territory. The center of a huge, near Category 5 hurricane made a direct hit on Puerto Rico, lashing the island with wind and rain for more than 30 hours. "It was as if a 50- to 60-mile-wide tornado raged across Puerto Rico, like a buzz saw," Jeff Weber, a meteorologist at the National Center for Atmospheric Research, remarked. Here is a one-week timeline selectively quoted from *The Atlantic*:

### Wednesday, September 20—Landfall

Hurricane Maria made landfall just south of Yabucoa Harbor in Puerto Rico at 6:15 a.m. The National Weather Service observed maximum sustained winds of 155 miles per hour, making Maria the first Category 4 cyclone to hit the island since 1932. The storm almost reached Category 5, defined as any tropical storm with winds 157 miles per hour or higher. Parts of Puerto Rico saw 30 inches of rain in one day, equal to the amount that Houston received over three days during Hurricane Harvey. The winds caused “tornado-like” damage over a swath of the island. They were strong enough to destroy the National Weather Service’s observing sensors in the territory, forcing meteorologists to measure the storm entirely by satellite.<sup>22</sup>

The storm knocked out power to the entire island. Much of the island’s population, including swaths of San Juan, could not access clean water without electrical power. Local officials warned that some towns would see 80 to 90 percent of their structures destroyed.<sup>23</sup>

### Thursday, September 21—One day after landfall

In the morning, rain from the storm continued to deluge Puerto Rico, and the National Weather Service warned of “catastrophic” flooding in the territory’s mountainous interior. Informal estimates put the storm’s death toll on the island at 10. Ricardo Ramos, the chief executive of Puerto Rico’s public power utility, told CNN that its entire electrical infrastructure had been “destroyed.” President Trump told reporters that Puerto Rico was “obliterated.” He said rebuilding would begin “with great gusto.” He added, “Their electrical grid is destroyed.” Trump also commented, “It wasn’t in good shape to start off with. But their electrical grid is totally destroyed. And so many other things.”<sup>24</sup>

### Friday, September 22—Two days after landfall

Puerto Rican officials cautioned that restoring power to the island could take six to eight months. Luis Muñoz Marín International Airport in San Juan, its main airfield, reopened to military traffic, according to the U.S. Army Corps of Engineers. President Trump issued an emergency declaration for Puerto Rico. He called local officials on the island and pledged help.<sup>25</sup>

### Friday, September 22—Two days after landfall

Puerto Rican officials advised that restoring power to the island could take six to eight months.<sup>26</sup>

### Saturday, September 23—Three days after landfall

The main port in San Juan reopened. “1.6 million gallons of water, 23,000 cots, [and] dozens of generators” arrived on 11 ships. In news reports, it became clear that the island’s entire communications infrastructure had been knocked out. Eighty-five percent of the island’s 1,600 cell towers did not work, and neither did the vast majority of Internet cables and telephone lines. The Puerto Rican government forewarned that Guajataca

Dam, in the territory's northwest, could fail at any moment owing to heavy precipitation and the force of the storm. Authorities began evacuating the 70,000 people who live nearby. The 90-year-old dam had not been inspected since 2013.<sup>27</sup> [The U.S. Army Corps of Engineers inspected the dam and announced on September 26 that it needed reinforcement but was not expected to fail.]

### Sunday, September 24—Four days after landfall

Vice President Mike Pence talked on the phone with Jenniffer González-Colón, Puerto Rico's non-voting representative in the House of Representatives. It is the only reported communication between a Puerto Rican leader and the president or vice president during the weekend.<sup>28</sup>

### Monday, September 25—Five days after landfall

The first Trump administration officials visited Puerto Rico to survey the damage. They included Brock Long, the administrator of FEMA, and Tom Bossert, a Homeland Security adviser. Both returned to Washington that night. "We need to prevent a humanitarian crisis occurring in America. Puerto Rico is part of the United States. We need to take swift action," Puerto Rican governor Ricardo Rosselló told CNN.<sup>29</sup>

The Pentagon issued its first written update entirely about the effort in Puerto Rico. It reported that 2,600 Department of Defense employees were in the territory or the U.S. Virgin Islands. Eight members of the House of Representatives wrote to President Trump, asking him to waive the Jones Act for ports in Puerto Rico for one year. The Jones Act is a 1920 law that requires ships carrying goods between U.S. ports to fly the American flag, which means they must abide by U.S. laws. It also requires these ships to be built in the United States and owned and operated by American citizens. The government temporarily waived the Jones Act with little fanfare for ports along the Gulf Coast after Hurricanes Harvey and Irma struck.<sup>30</sup> [A few days later, President Trump waived the Jones Act for 10 days, allowing ships not flying the U.S. flag to access the island's ports.]

### Tuesday, September 26—Six days after landfall

Forty-four percent of Puerto Rico's population, or 1.53 million people, lacked access to drinking water, the Pentagon declared. Power remained out across most of the island. Fifteen percent of the island's 69 hospitals, about 10, were open. Eight airports and eight seaports were re-opened across Puerto Rico, albeit some were only operating during daylight hours.<sup>31</sup>

President Trump held his first coordinating meeting in the Situation Room about the response in Puerto Rico. He talked to Governor Rosselló again and to Congresswoman González-Colón for the first time.<sup>32</sup>

The U.S. Navy announced the deployment of the **USNS *Comfort***, a hospital ship based in Norfolk, Virginia, to Puerto Rico. FEMA officials explained that the *Comfort* must take on emergency staff, and that it might take another week before the ship could leave port. The Pentagon also announced it would be tasking nine additional cargo aircraft with Puerto Rican relief and seven additional cargo planes with disaster response in the U.S. Virgin Islands.<sup>33</sup>

### Wednesday, September 27—Seven days after landfall

The Puerto Rican government announced that 16 people had lost their lives in the storm. It did not update the official death toll for another six days. The Port of Mayagüez reopened for daylight operations, according to the Pentagon.<sup>34</sup>

Over the days thereafter, other problems arose. CNN revealed that more than 10,000 shipping containers full of food and supplies lay stranded in the Port of San Juan. They could not be shipped to the island's interior due to a lack of fuel, labor, and working roads. Governor Rosselló said that only about 20 percent of Puerto Rico's truckers have been able to work.<sup>35</sup>

Hector Pesquera, Puerto Rico's secretary of public safety, admitted to the Center for Investigative Journalism that death tolls were likely much higher than official estimates. He remarked, "I believe there are more dead, but I don't have reports telling me, [for example], eight died in Mayagüez because they lacked oxygen, that four died in San Pablo because they did not receive dialysis."<sup>36</sup>

The Pentagon revised downward its estimate of reopened gas stations, saying "more than 759" of 1,120 were selling gas again. It did not provide a reason for the change. It also announced that about 65 percent of grocery and big-box stores were open. The Federal Communications Commission disclosed that about 12 percent of cell towers on the island were operational again. Puerto Rican officials estimated that only about 40 percent of residents had any kind of Internet or cell service.<sup>37</sup> (Telephone or Internet service is necessary in filing for FEMA individual assistance programs via tele-registration or through online application. Recall that FEMA no longer accepts written applications for such assistance by mail.)

Thirteen days after landfall, President Trump visited Puerto Rico for the first time since Maria struck the island. During the visit, he tossed relief supplies, including paper towels and toilet paper, into a crowd of onlookers.<sup>38</sup> In fairness to the president, given the scale of damage in Puerto Rico and the high tempo of ongoing relief operations, visiting the island much earlier may have disrupted activities there.

### The Virgin Islands and Maria

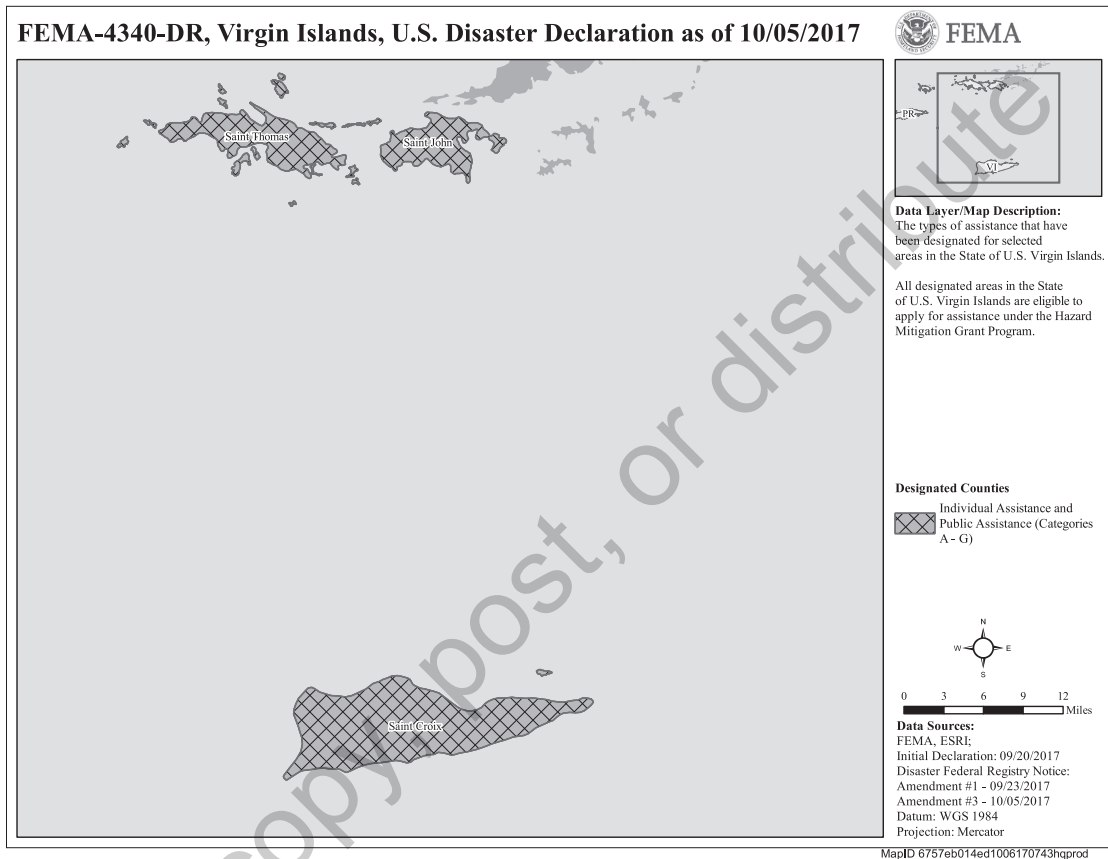
The Virgin Islands were also struck by Hurricane Maria on September 19, 2017, and its Island of St. Croix sustained major damage.<sup>39</sup> As another U.S. Trust Territory, the Virgin Islands, like the Commonwealth of Puerto Rico, was entitled to federal disaster assistance much like any disaster-stricken American state. Figure 9-6 is a map illustration of the Virgin Islands (VI). VI has only three county equivalents, and they are each an island: St. Croix, St. John, and St. Thomas. The Virgin Islands received a major disaster declaration that extended the full range of FEMA assistance to the island's governments as well as to disaster victims there.

Although there were no reports of casualties, the storm unleashed powerful winds and heavy rainfall, shearing off roofs, downing trees, and decimating the communications and power grid across the island, according to the U.S. Virgin Islands Emergency Operations Center. Two other main islands, St. John and St. Thomas, were pummeled by Hurricane Irma just 14 days earlier. The back-to-back storms delivered a one-two punch in the Caribbean territory, known for its white sand beaches.<sup>40</sup>

President Donald Trump declared a major disaster in the U.S. Virgin Islands one day after Maria hit. The move freed up federal funding for people on the island of St. Croix. FEMA began coordinating with the U.S. Virgin Islands to medically evacuate general



**FIGURE 9-6 ■ Virgin Islands County Equivalents Included in Presidential Declaration of Major Disaster DR-4340 for Hurricane Maria Damage and Its Effects with Types of Assistance Made Available**



Source: FEMA, "Virgin Islands Hurricane Maria [DR-4340]," Incident Period: September 16, 2017–September 22, 2017 with Major Disaster Declaration declared on September 20, 2017, <https://www.fema.gov/disaster/4340> [accessed June 22, 2018].

and dialysis patients. FEMA, along with its federal partners, provided millions of meals and millions of liters of water to the U.S. Virgin Islands and Puerto Rico. Additional meals and water continued to arrive in both territories "daily." The U.S. Virgin Islands established 17 sites for supplies distribution, according to FEMA.<sup>41</sup>

Over several weeks, the U.S. Virgin Islands' government labored to prioritize fuel distribution throughout the islands and to install generators for power restoration. The Henry E. Rohlsen Airport in St. Croix remained open to military aircraft, while Cyril E. King Airport in St. Thomas opened for limited commercial aircraft. FEMA said the U.S. Virgin Islands Water and Power Authority drinking water system was back online as of Thursday night, September 27, as well as the Concordia potable water pump station in St. Croix.<sup>42</sup> Each island of VI recovered at a different rate, but the Virgin Islands as a whole recovered much more rapidly than did Puerto Rico.

## IMMEDIATE AND SHORT-TERM RESPONSE

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For Harvey, Irma, and Maria, the Emergency Management Assistance Compact, a system of state-to-state mutual aid, was activated. EMAC officials announced, “All told, Massachusetts and other states sent more than 4,700 responders on 120 missions to Puerto Rico last year to help with disaster relief efforts. That came on top of nearly 5,300 who had been sent to Texas after Hurricane Harvey, and nearly 4,000 who were dispatched to Florida after Hurricane Irma.”<sup>43</sup>

### Funding Federal Response and Recovery

On September 8, 2017, the Congressional Research Service (CRS), aware of Hurricane Harvey’s burgeoning costs and the probable impending damage Hurricane Irma would inflict, advised policymakers to pay special attention to the remaining balance of the Disaster Relief Fund (DRF). That fund pays for most of the immediate response activities supported by the federal government, primarily through emergency work grant assistance and direct federal assistance. CRS reported that “before Hurricane Harvey made landfall, the DRF had roughly \$3.5 billion in total unobligated resources available.” According to FEMA, as of the morning of September 5, eight days after Harvey began tormenting east Texas and the Louisiana Gulf, the DRF had \$1.01 billion in total unobligated resources.<sup>44</sup> In other words, about \$2.5 billion in funding from the DRF had been obligated in only eight days. Only a portion of this amount was spent by FEMA.

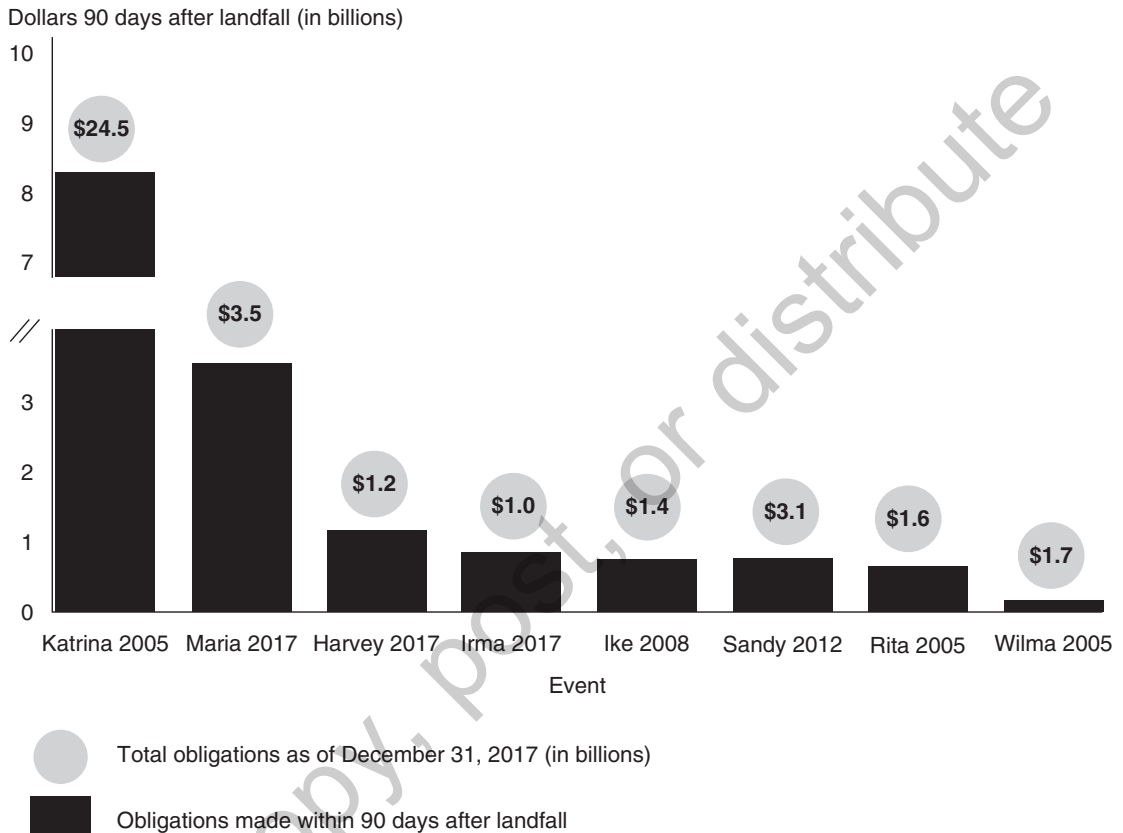
CRS added, “in order to conserve resources needed for response to Hurricane Harvey and Hurricane Irma, and other time-sensitive disaster assistance, since August 28, FEMA has implemented ‘immediate needs funding restrictions,’ which delays funding for all longer-term projects until additional resources are available.”<sup>45</sup>

CRS advised, “Though the funding status of the DRF is perhaps most critical during the response phase, many other federal programs and accounts have provided support in the past. After Hurricane Sandy, P.L. 113-2 provided supplemental funding to over 66 different accounts and programs, including the Department of Housing and Urban Development (HUD)’s Community Development Block Grant (CDBG) program, the Department of Transportation’s Emergency Relief Programs, and the civil works program of USACE (U.S. Army Corps of Engineers).”<sup>46</sup> Aware of the ongoing drawdown, on September 1, the Trump administration requested \$7.85 billion in supplemental funding for FY 2018. To close out FY 2017 (which would end September 30, 2017), the administration requested \$7.4 billion for the DRF and \$450 million for the Small Business Administration (SBA) disaster loan program. This signaled support for faster-than-usual apportionment of DRF funds under a possible FY 2018 continuing resolution.<sup>47</sup>

This reaffirms that the DRF is often tapped by many federal agencies besides FEMA and other DHS organizations. Thus, DRF pays the bulk of FEMA’s program costs including FEMA’s mission assignment payments to other federal agencies, but it has been used by Congress and the president to pay other federal agencies for other purposes as well.

On September 6, 2017, the House passed the relief package requested by the Trump administration as an amendment to H.R. 601. On September 7, the Senate passed an amended version, which included the House-passed funding as well as an additional \$7.4 billion for disaster relief through HUD’s Community Development Fund, a short-term

**FIGURE 9-7 ■ Obligations in the First 90 Days Post Landfall and as of December 31, 2017, for the Top Eight Hurricane Events by Contract Obligations (in Calendar Year 2017 Constant Dollars)**

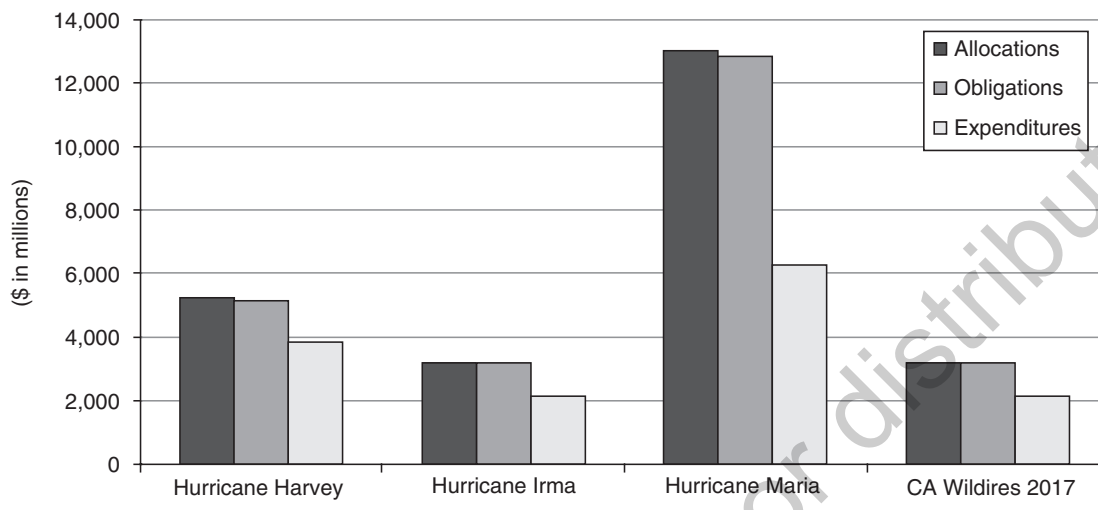


Source: U.S. Government Accountability Office, "2017 Disaster Contracting: Observations on Federal Contracting for Response and Recovery Efforts," February 2018, <https://www.gao.gov/assets/700/690425.pdf> (accessed July 9, 2018).

increase to the national debt limit, and a short-term continuing resolution that would fund government operations through December 8, 2017. The House passed the Senate-amended version of the bill on September 8, 2017.<sup>48</sup> Ironically, the funding emergency created by the 2017 hurricanes temporarily ended a heated congressional dispute about raising the national debt ceiling.

Figure 9-7 shows federal obligations in the first 90 days after hurricane landfall and as of December 31, 2017, covering the top eight hurricanes ranked by contract obligations. Amounts are shown in constant calendar year 2017 dollars. What is remarkable is that Hurricane Maria's 90-day post-landfall spending total stands at \$3.5 billion, which is about half a billion less than Hurricane Katrina's 2005 first 90-day total. Hurricane Harvey's \$1.2 billion and Hurricane Irma's \$1 billion totals for the first 90-days after

**FIGURE 9-8 ■ FEMA Allocations, Obligations, and Expenditures for Hurricanes Harvey, Irma, Maria, and California Wildfires 2017 (Cumulative) as of April 30, 2018**



Source: FEMA, "Disaster Relief Fund: Monthly Report as of April 30, 2018," Fiscal Year 2018 Report to Congress," May 5, 2018, <https://www.fema.gov/media-library-data/1526358994453-ab5a4d20c8e7136da5c6ed583286ff6a/May2018DisasterReliefFundReport.pdf> (accessed June 7, 2018).

their respective landfalls places them sixth and seventh, respectively, as the most federally expensive U.S. hurricanes of this century for this category. Remember, federal spending on Maria, Harvey, and Irma could continue for 10 years or more. All three may eventually move beyond total federal spending for Ike, Sandy, Rita, and Wilma, respectively.

Figure 9-8 is a bar chart with vertical columns showing FEMA spending over the early period of Hurricanes Harvey, Irma, and Maria in 2017. Most of this federal spending was to cover the costs of disaster response and to underwrite federal assistance under FEMA's Individual and Households program and its Housing Program. Be aware that in Figure 9-8 a share of FEMA spending after Irma struck includes continued payments to Hurricane Harvey victims. Similarly, a sizable share of post-Maria FEMA spending is dedicated to meeting Harvey and Irma needs.

What is curious in Table 9-1 are the drops in spending. For example, the falloff in payments in the week Hurricane Irma struck Florida may reflect a FEMA and contractor retooling of some sort to accommodate the anticipated deluge of claims for assistance expected from Irma victims. It seems to have taken nearly three weeks for the same falloff to occur after Maria struck Puerto Rico. Some of the Maria spending delay may be attributable to cell tower and electric power loss across Puerto Rico in the aftermath of the hurricane that delayed applications for aid from the people there. The rebound in FEMA spending after all three disasters, plus payouts for other disasters declared in 2017 during the chart's three-month interval, is, by late September, astoundingly large.



## RECOVERY

As of April 30, 2018, Hurricane Maria, at over \$13.2 billion in allocations by FEMA, exceeded Hurricane Harvey's \$5.2 billion and Hurricane Irma's \$3.2 billion.<sup>49</sup> This is shown in Figure 9-8's left side vertical bars for each of the events drawing FEMA allocations as of April 30, 2018. Remember, obligations come out of allocations, and in turn, expenditures (outlays) come out of obligations. So, do not add the vertical bars of each hurricane and the wildfires.

Figure 9-8 includes FEMA's 2017 California wildfire spending, which was \$1.4 billion. This sum includes Fire Management Assistance Grant spending. Figure 9-8 spending sums are by no means the final totals. Much of the California wildfire spending covered damage to homes, although FEMA housing aid covers emergency minimal repairs; if losses are more severe, FEMA may cover a portion of what homeowner's insurance policies do not cover. FEMA housing aid is also means-tested such that many homeowners whose annual incomes exceed FEMA's maximum level are denied FEMA housing aid and directed to the SBA disaster loan program.

The final amounts spent on these four disasters in the years ahead will most likely drive up spending totals shown here. Also, regarding the trio of hurricanes, these figures do not include FEMA payouts to cover claims filed by impacted National Flood Insurance policyholders.

Table 9-1 provides FEMA program spending for Hurricanes Sandy, Harvey, Irma, and Maria (Actual Obligations by Program) for FY 2017 with projections for FY 2018. Recall that Superstorm Sandy struck in the fall of 2012. Table 9-1 shows that FEMA spending on that disaster was still substantial some five years later. Cumulated FEMA spending on Sandy for Public Assistance (government-to-government spending that chiefly pays to repair, rebuild, or replace damaged infrastructure) was about \$15.6 billion through FY 2017 and expected to rise to about \$16.65 billion by the end of FY 2018 (September 30, 2018). FEMA's Individual Assistance (IA) funding for Sandy is \$1.6 billion, and that figure is fixed since the application period for funding was closed only a year or so after that disaster.<sup>50</sup>

What makes Table 9-1 extraordinary is that FEMA Individual Assistance funding was then the highest FY 2017 program spending category for the trio of 2017 hurricanes. Harvey shows cumulated obligations for IA in 2017 at \$1.5 billion and actual first quarter FY 2018 IA spending at \$1.15 billion. Irma has cumulated obligations for FY 2018 IA at \$887 million and actual first quarter FY 2018 IA at \$409 million. Maria's Individual Assistance spending starts low in FY 2017 and ramps up dramatically in FY 2018. Recall that Maria was the last of the three hurricanes and that people there had tremendous difficulty making application for FEMA IA, in part, due to the lack of electric power and cell tower availability. Maria IA spending begins at \$371 million for the final month of FY 2017 and escalates to \$1.795 billion by the end of the first quarter of FY 2018 (September 30, 2017–December 31, 2017).

Table 9-1's far right column shows estimated totals through FY 2018 (which ends September 30, 2018). Hurricane Sandy shows a Public Assistance (PA) total of about \$16.65 billion and an Individual Assistance (IA) total of about \$1.62 billion. Remember, these sums are cumulated from October 2012 through September 30, 2018.

**TABLE 9-1 ■ Hurricanes Sandy, Harvey, Irma, and Maria (Actual Obligations by Program) for FY 2017 with Projections for FY 2018**

	Cumulative Obligations Thru FY 2017 <sup>(1)</sup>	Actual Obligations 1st Qtr	Actual Obligations 2nd Qtr	Actual Obligations/ Projections 3rd Qtr	Projections 4th Qtr	FY 2018 Totals	Totals Thru FY 2018
<b>Sandy</b>							
Public Assistance	\$ 15,592	\$ 330	\$ 95	\$ 305	\$ 330	\$ 1,060	\$ 16,652
Individual Assistance	1,620	-	-	-	-	-	1,620
Mitigation	1,034	39	41	21	115	216	1,250
Operations	321	-	-	-	-	-	321
Administrative	1,456	16	10	17	11	54	1,510
<b>Total <sup>(2)</sup></b>	<b>\$ 20,023</b>	<b>\$ 385</b>	<b>\$ 146</b>	<b>\$ 343</b>	<b>\$ 456</b>	<b>\$ 1,330</b>	<b>\$ 21,353</b>
<b>Harvey</b>							
Public Assistance	\$ 324	\$ 180	\$ 134	\$ 308	\$ 323	\$ 945	\$ 1,269
Individual Assistance	1,502	1,150	152	78	87	1,467	2,969
Mitigation	-	-	17	26	-	43	43
Operations	151	4	33	76	-	113	264
Administrative	894	446	137	183	146	912	1,806
<b>Total <sup>(2)</sup></b>	<b>\$ 2,871</b>	<b>\$ 1,780</b>	<b>\$ 473</b>	<b>\$ 671</b>	<b>\$ 556</b>	<b>\$ 3,480</b>	<b>\$ 6,351</b>

<b>Irma</b>														
Public Assistance	\$	7	\$	19	\$	43	\$	347	\$	623	\$	1,032	\$	1,039
Individual Assistance		887		409		48		21		6		484		1,371
Mitigation		-		3		-		3		62		68		68
Operations		384		122		-		(1)		(2)		119		503
Administrative		574		489		127		68		84		768		1,342
<b>Total (2)</b>	<b>\$</b>	<b>1,852</b>	<b>\$</b>	<b>1,042</b>	<b>\$</b>	<b>218</b>	<b>\$</b>	<b>438</b>	<b>\$</b>	<b>773</b>	<b>\$</b>	<b>2,471</b>	<b>\$</b>	<b>4,323</b>
<b>Maria</b>														
Public Assistance	\$	28	\$	582	\$	1,297	\$	2,312	\$	1,581	\$	5,772	\$	5,800
Individual Assistance		371		1,795		248		136		416		2,595		2,966
Mitigation		-		-		17		10		353		380		380
Operations		768		3,521		922		(32)		54		4,465		5,233
Administrative		355		1,368		441		597		279		2,685		3,040
<b>Total (2)</b>	<b>\$</b>	<b>1,522</b>	<b>\$</b>	<b>7,266</b>	<b>\$</b>	<b>2,925</b>	<b>\$</b>	<b>3,023</b>	<b>\$</b>	<b>2,683</b>	<b>\$</b>	<b>15,897</b>	<b>\$</b>	<b>17,419</b>

Source: FEMA, "Disaster Relief Fund: Monthly Report as of April 30, 2018," Fiscal Year 2018 Report to Congress," May 5, 2018, <https://www.fema.gov/media-library-data/1526358994453-ab5a4d20c8e7136da5c6ed583286ff6a/May2018DisasterReliefFundReport.pdf> (accessed June 7, 2018).

(1) Adjusted for recoveries that occur in FY 2018 against prior-year obligations.

(2) The totals also include obligations for both major declarations and emergencies.

Interestingly, Table 9-1 reveals, for Harvey and Irma FEMA spending on all declarations, that IA<sup>51</sup> totals exceed PA totals. Harvey shows an expected end-of-FY 2018 (September 30, 2018) total of \$1.27 billion for infrastructure (PA) and \$2.969 billion for individual assistance. Similarly, Irma end-of-FY 2018 FEMA infrastructure (PA) spending is about \$1.04 billion and IA (for Individuals and Household Aid, which includes Housing and Other Needs assistance) is expected to exceed \$1.37 billion.

Hurricane Maria findings track with Superstorm Sandy's. By this, infrastructure assistance FEMA spending far outpaces assistance to individual and household (IA) categories. Notice that Maria's FEMA infrastructure spending is expected to reach \$5.8 billion and that Maria's FEMA individual assistance spending is projected to hit \$2.97 billion. The deadline for people to apply for FEMA Individual Assistance was June 18, 2018, in Puerto Rico and was January 8, 2018, for Virgin Islanders.

As shown in Table 9-1, for Harvey, Irma, and Maria, individual assistance funding begins to taper off after the first year, particularly once the period for accepting victim assistance application is ended. However, infrastructure spending tends to start slowly and escalate significantly in years 2, 3, 4, and perhaps 5, until construction projects are completed and fully paid for. Obviously, infrastructure projects take time to plan, design, bid contracts on, win permits for, build, test, license or certify, audit, and eventually close the books on. Therefore, it may be possible that ultimately Harvey and Irma infrastructure spending grows beyond their respective individual assistance spending.

Table 9-1 is interesting in a few other respects. That table shows FEMA disaster mitigation funding paid out to states and territories for declarations received for these hurricanes. There appears to be a slow start for mitigation funding for Maria-impacted territories. Also, the administrative costs FEMA must pay are presented, and these are substantial. Finally, consider the cumulated expected totals in FEMA spending (all programs and categories) for each hurricane expected by September 30, 2018: Superstorm Sandy is \$21.35 billion; Hurricane Harvey is \$6.35 billion; Irma is \$4.32 billion; and Maria is \$17.42 billion. Be warned that figures for the 2017 hurricanes can be expected to rise in the months and years after September 30, 2018, particularly for infrastructure spending (PA).

### **National Flood Insurance Program (NFIP)**

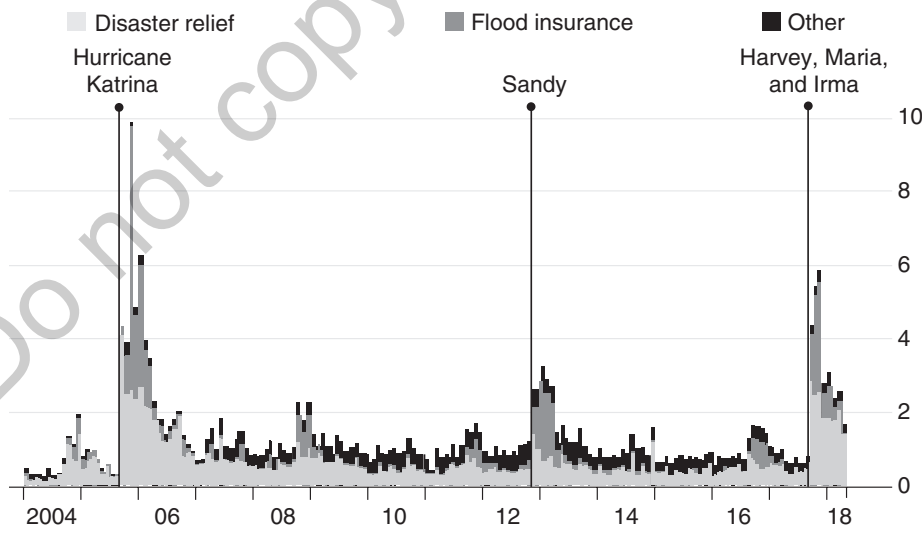
According to CRS, flood insurance claims made through the NFIP will be an important source of financial assistance to policyholders in the regions impacted by Harvey and Irma. CRS declared, "Given the potential severity of the hurricanes, the NFIP may need to borrow from the U.S. Treasury to pay future claims. As of August 27, 2017, FEMA reported that the NFIP had \$1.799 billion in available funds to pay claims, which did not include additional resources that a recent reinsurance contract may provide. The NFIP currently owes \$24.6 billion in debt to the U.S. Treasury, leaving \$5.825 billion out of the total authorized \$30.425 billion in borrowing authority. It is possible that this borrowing limit could be reached, in which case Congress may consider increasing it, as was done most recently following Hurricane Sandy (P.L. 113-1)."<sup>52</sup> In the Texas counties designated under the major disaster declaration, the NFIP has implemented temporary changes to the claims process to make it possible for policyholders to receive funds more quickly. Key provisions of the NFIP were extended from September 30, 2017, through December 8, 2017, when President Trump signed into law H.R. 601 as amended on September 8, 2017.<sup>53</sup>

## PROBLEMS

According to *The Economist*, “America is much better prepared for hurricanes today than it was when Katrina struck in 2005. But the process for responding to such crises remains wasteful and inefficient. When a hurricane strikes, the Federal Emergency Management Agency (FEMA) uses its Disaster Relief Fund to pay for food, shelter and repairs to infrastructure. In the past eight months, FEMA has doled out over \$17 billion from the fund [see Figure 9-9]. This pot of money, which pays for about half of all federal spending on hurricane relief and recovery, is often woefully close to empty: it held just \$2.2 billion when Hurricane Harvey struck last August.”<sup>54</sup> It is only after the roaring winds and rising waters have done their damage that Congress allocates new funds to top it up through “supplemental appropriations.”

Figure 9-9 shows FEMA’s monthly spending on disaster relief, flood insurance, and other items from 2004 to 2018 in billions. Hurricane Katrina in 2005 shows the tallest spike in monthly spending (nearly \$10 billion). Superstorm Sandy in 2012 comes in third behind the cumulated hurricane FEMA spending of 2017 (nearly \$6 billion). Several qualifications are in order. First, FEMA spending on Maria, Harvey, and Irma is likely to continue through 2018 and probably five or ten years beyond, just as Katrina and Sandy spending has run years beyond the respective time they struck. Second, the totals shown here are for FEMA and not for every federal agency that responded to the 2017 hurricanes. Third, these totals do not include money spent on the hurricanes by private insurance companies (non-National Flood

**FIGURE 9-9 ■ FEMA Monthly Spending on Disaster Relief, Flood Insurance, and Other from 2004 to 2018 in Billions**



Source: Data from the US Department of the Treasury; NOAA.



Insurance spending by insurers), money spent by private corporations, money spent by states and localities, money spent through capital construction fund borrowing by non-federal entities, and lest we forget, the money spent by the millions of victims of these disasters.

### Hurricane Harvey and Housing Problems in Texas

According to reporter Brandon Formby of Austin's *The Texas Tribune*, "In the weeks immediately after Hurricane Harvey, thousands of Texans lingered in emergency shelters, small coastal communities scrambled to restore electricity and entire neighborhoods sat swamped with moldy mounds of housing innards. As more than half a million families sought disaster relief aid and damage estimates surpassed the \$100 billion mark, the Federal Emergency Management Agency worried that it didn't have the capability to handle what was quickly becoming the largest housing recovery effort in American history, according to (Texas) Governor Greg Abbott's office."<sup>55</sup> In response, Governor Abbott "tasked the state's General Land Office (GLO) with a job that typically falls to FEMA: running short-term housing programs for Harvey victims. That undertaking includes everything from lining up contractors for minor repairs to securing trailers for displaced families. Abbott, Texas Land Commissioner George P. Bush, and FEMA officials touted the unprecedented arrangement as a way to rewrite the nation's disaster response playbook."<sup>56</sup>

Reporter Formby continues, "But six months after Harvey slammed the Texas coast as a Category 4 hurricane and dropped historic rainfall on large swaths of the state, that initial public optimism has crashed against the reality of trying to re-engineer an already-byzantine process of getting disaster aid to hurricane survivors. More than 890,000 families sought federal disaster aid in the three months after Harvey hit—including more than 40,000 who needed short-term housing help. Yet more than 100 days after Harvey's landfall, the General Land Office had provided short-term housing to fewer than 900 families."<sup>57</sup> And by the time the GLO contacted more than 33,000 families for the short-term housing help they sought, those Texans had made other arrangements. Many officials feared an untold number of people would end up living in moldy, unrepaired homes.<sup>58</sup>

The new process was delayed from the beginning. According to *The Texas Tribune*, Governor Abbott "didn't tell (George P.) Bush's (GLO) office about the plan until 19 days after the storm's Aug. 25 landfall—and one day before the governor and FEMA officials publicly unveiled it. Federal records suggest that state officials almost immediately had concerns that hiring and training the necessary personnel would require additional time."<sup>59</sup>

"The program probably didn't get started as quickly as any of us would have liked, but it is new,"<sup>60</sup> FEMA coordinating officer Kevin Hannes told *The Texas Tribune*. "The stated plan was raising alarms from federal officials as well. The Department of Homeland Security's Office of Inspector General said in a Sept. 29 (2017) 'management alert' that because FEMA still hadn't developed policies and procedures for the disaster recovery efforts, officials in hard-hit communities had been forced to develop housing plans themselves on a 'disaster-by-disaster basis.'<sup>61</sup> Reportedly, "[t]he problem is no one really understands how FEMA works," Rockport mayor C. J. Wax said at a *Texas Tribune* event in October.<sup>62</sup> "When you don't understand how they work, then how can they understand what our needs are?"<sup>63</sup>

“Six months after Harvey caused an estimated \$200 billion in damage, more than 8,000 Texans remained in hotel rooms and another 2,000 households had received temporary housing, such as mobile homes and trailers. About 5,000 families were getting basic emergency repairs done to their homes through the GLO, while 30,000 others await such work to be complete.”<sup>64</sup>

In fairness to the Texas General Land Office, in an official 2018 report, that office “estimates the cost of damages from Hurricane Harvey at \$160 billion,” rivaling Louisiana’s total damage from Hurricane Katrina in 2005. The GLO claimed, “The hurricane shut down ports, trade, tourism, oil and gas production, agricultural production, and general businesses across most of the Texas coast, including the fourth-largest city in the nation for almost a week and, in some cases, significantly longer. The impact of these interruptions is difficult to quantify at this time, but the effects of this disaster were felt across the nation, with commodities such as gas increasing in price by \$0.33 a gallon in the weeks following Hurricane Harvey.”<sup>65</sup> The GLO report disclosed that “Hurricane Harvey resulted in record rainfall totals of 34 trillion gallons of water. Combining this record rainfall together with the fact that Hurricane Harvey made landfall twice creates a three-event narrative: the initial landfall in Aransas County; the unprecedented rainfall in the Houston metroplex and surrounding areas; and Hurricane Harvey’s second landfall which caused massive flooding in Southeast Texas. Following these three events, tens of thousands of homes that had never been flooded took on water, and evacuations continued for days after landfall.”<sup>66</sup>

The GLO “continues its commitment to rebuilding while prioritizing resiliency. In assessing unmet needs, it is important to consider the additional costs of safeguarding housing and community infrastructure investments from future disasters. As such, Texas will not only assess projects and consider state-run programs that replace or repair lost property but will also seek to invest resources in efforts that promise to mitigate damage from a wide range of future types of disaster. Although this can increase costs initially, mitigating efforts can greatly reduce the cost of future damages. The success of this long-term recovery practice was seen firsthand during Hurricane Harvey. Resilient-enhanced projects from previous CDBG-DR (Community Development Block Grants and FEMA’s assistance under a major disaster declaration [DR]) efforts suffered less damage from Hurricane Harvey: construction projects designed to prevent future flooding, mitigate further loss, and decrease evacuation times.”<sup>67</sup>

While the Fornby article provides a strong critique of Texas GLO efforts, the scale of Harvey damage, the immensity of the housing challenges that office faced, plus the many demanding and expensive requirements of rebuilding to advance flood mitigation, resilience, relocations, housing elevation, buyouts, and a host of other purposes must be considered. It may have been that addressing the housing challenges posed by Harvey’s colossal flood destructiveness to dozens of counties in east Texas, most particularly Harris County, was a task too great for Texas GLO, FEMA, and the U.S. Department of Housing and Urban Development. However, after Harvey, some of the poor who resided in flood damage zones suffered rejections by officials of FEMA’s housing assistance program. See the “Tell Me More” 9-1 box.

## TELL ME MORE 9-1

### APPLICATION PROCESSING: THE PLIGHT OF HERMAN SMALLWOOD

According to *Houston Chronicle* reporter Mike Snyder, Herman Smallwood has lived in a humble wood-frame house in his East Aldine neighborhood for 48 years. Smallwood, who is 65 and disabled, rode out Hurricane Harvey's downpours in this house. "The water didn't reach the front door, he said, but it loosened the earth beneath his home's foundation of cinder blocks, causing them to shift and sink to different depths. As a result, there's hardly a level surface in the 830-square-foot house. Walls are cracked, floors tilted. Mold creeps up a bedroom wall after water poured through the roof, ruining his television and other belongings."<sup>68</sup>

Smallwood's request for money for repairs is 1 of more than 275,000 applications from Harvey survivors that FEMA has rejected so far. His case and others have fueled persistent concerns about the fairness and transparency of FEMA's process for determining who qualifies for help in the first, crucial months after a disaster. Research by the Houston-based Episcopal Health Foundation found that residents of low-income neighborhoods like Smallwood's were more likely to be deemed ineligible than were applicants from more affluent ZIP codes.<sup>69</sup>

Lawyers and community organizers who have worked with survivors of multiple disasters cite a range of reasons why deserving applicants may be turned down—unqualified or indifferent home inspectors, unclear rules, an assumption that many applicants have fraudulent intent. Some say applicants are being rejected because their homes were in poor condition before the storm. These issues have surfaced, to varying degrees, since Hurricane Katrina devastated New Orleans in 2005, advocates say. Despite signs of improvement, some are convinced that many people still aren't getting the help they deserve.<sup>70</sup>

"We've seen it getting better," said Sandra Brown, the disaster response manager for Lone Star Legal Aid, a service for the poor, "but FEMA is a giant bureaucracy, and they have to be sued periodically to change things." Texans began registering for FEMA assistance online, by phone,

or in person within days after Harvey struck the coast in late August, dumping up to 51 inches of rain on parts of the Houston area and leading to massive flooding. Agency data provided to the *Houston Chronicle* show that 895,342 Texans had registered as of January 19, 2018. Forty-one percent had been approved, with 31 percent deemed ineligible. The remaining applications had been withdrawn, referred to the Small Business Administration for a possible loan, or were pending with FEMA or awaiting an insurance determination.<sup>71</sup>

To some extent, a high denial rate is built into FEMA's process. The agency encourages those affected by a disaster to register, and many people do so even though they have obvious disqualifications, such as insurance that covers damage. FEMA cannot duplicate insurance claim settlements. Such circumstances account for many of the "ineligible" determinations, federal officials say. "They might have registered to have access to an SBA low-interest disaster loan," spokesman Robert Howard wrote in an email. "They might have only suffered minor damage but registered because they heard a media report telling them they should."<sup>72</sup>

Smallwood's application was processed through the Individuals and Households program, which has assisted Americans affected by more than 800 hurricanes, earthquakes, tornadoes, and other natural disasters since 2002. So far, Harvey has triggered some \$1.5 billion in assistance through this program. Nationally, FEMA spent \$25.3 billion on individual assistance from 2005 through 2014, according to the Government Accountability Office.<sup>73</sup>

FEMA stopped taking applications from people affected by Harvey on November 30, 2017, but thousands of appeals are still being reviewed. New programs developed by federal agencies in partnership with the Texas General Land Office are providing a few comparable services as the focus of the recovery effort shifts to long-term needs. In addition to home-repair funds, FEMA's Individuals

and Households program provides rental assistance, temporary housing such as mobile homes, and grants to replace damaged vehicles or other personal property. With the exception of the state cost share it pays when receiving FEMA public assistance grant funding and certain state tax relief provided to victims and businesses, the state of Texas has been reluctant to enact laws and programs that offer Texas disaster victims non-FEMA relief paid out from Texas state funds.

It is the process for approving home-repair grants, though, that has been most troublesome to advocates for disaster survivors—particularly poor and working-class people who are less likely to have other resources such as insurance or savings. Repairs funded through the Individuals and Households program are intended to be quick fixes—a make-do until the owner can pay for permanent renovations or replacement through long-term federal assistance or other sources. The current limit on assistance per household is \$33,300.<sup>74</sup>

The law authorizing the program provides that it will pay only for repairs sufficient to make a disaster-damaged home “habitable.” This was a basis for the first reason cited for denying Smallwood’s application; the storm, in FEMA’s judgment, had not made the house “unsafe to occupy.” But what constitutes “habitable”? According to a 2016 lawsuit filed against FEMA on behalf of Texas disaster victims, lack of clarity on this point makes it impossible for applicants to understand what is required to qualify for help or to mount an effective appeal.<sup>75</sup>

Smallwood’s house, like those of many people seeking help from FEMA, was in poor condition before Harvey. In cases like his, it can be difficult for inspectors to distinguish storm-caused damage from pre-existing problems, particularly since inspectors hired quickly in the rush to respond to a disaster may have limited experience or training. After Hurricanes Ike and Dolly struck Texas in 2008, FEMA denied help to many applicants after inspectors concluded that “deferred maintenance,” rather than the storm, caused the poor condition of their homes. In response to litigation, FEMA agreed to stop using this standard in future disasters.<sup>76</sup>

But Brown, the Lone Star Legal Aid manager, said she suspects the agency is still denying claims based on deferred maintenance—without actually using the term. For example, she said, FEMA often denies requests based on damage from water that falls through the roof, as it did in Smallwood’s house, but approves claims based on rising floodwaters. Inspectors assume the roof was already in poor condition due to deferred maintenance, Brown said. Smallwood, however, said his roof didn’t leak before Harvey.

FEMA generally does not comment on individual applicants, citing privacy laws. Mary Lawler, executive director of Avenue Community Development Corp., a Houston nonprofit, made a similar point in testimony January 18 [2018] to the Texas House Urban Affairs Committee. “In our work, we’re seeing that many of our low-income clients are being denied for FEMA assistance,” Lawler said. “We’re still trying to understand the reasons for those denials, but ... it appears that many of them are related to deferred maintenance on the homes, which of course disproportionately affects low-income households.”<sup>77</sup>

The second reason for Smallwood’s denial—lack of proof that he owned the house—has been common after Harvey, lawyers and advocates said. Brown said about half of the clients her agency is assisting have been denied on this basis. Smallwood said he inherited the house from his mother after her death some 30 years ago but never had the deed transferred to his name. However, he showed the inspector tax-payment receipts, and the Harris County Appraisal District website lists “Herman Smallwood et al.” as the owner. FEMA’s guidelines include “property tax receipt or property tax bill” as an “alternative certification document.”<sup>78</sup>

Advocates say they understand that some errors are inevitable when government agencies have to mobilize quickly to help hundreds of thousands of people after a disaster. But they are concerned that attitudes within FEMA and its contractors may add to these problems.

“FEMA is on high **fraud alert**, which they should be, but I believe they’re denying a lot of people, assuming [applications are] fraud when they’re not,” Brown said. The agency works

*(Continued)*

(Continued)

aggressively to prevent fraud. All applicants referred to the Individuals and Households program must sign a statement affirming that the information they are providing is true, that they are not submitting duplicate applications, and that they won't use federal benefits for unintended purposes. The document states that con-

cealing information or making false statements can result in criminal and civil penalties. Herman Smallwood says he willingly signed FEMA's anti-fraud form. While he awaits a decision on his appeal, he is still living in his damaged house, looking down at the cracks in the floor that opened up when the foundation shifted.<sup>79</sup>

### **A San Juan Mayor versus a U.S. President: Suspending a Declaration?**

A truly unusual and somewhat bizarre series of exchanges witnessed on television and posted in news media stories and in presidential tweets in late September 2017 concerned the mayor of San Juan and the president of the United States.

According to *The New York Times*, "President Trump lashed out at the mayor of San Juan on Saturday (September 30, 2017) for criticizing his administration's efforts to help Puerto Rico after Hurricane Maria, accusing her of 'poor leadership' and implying that the people of the devastated island were not doing enough to help themselves."<sup>80</sup> President Trump wrote on Twitter, "The Mayor of San Juan, who was very complimentary only a few days ago, has now been told by the Democrats that you must be nasty to Trump. Such poor leadership ability by the Mayor of San Juan, and others in Puerto Rico, who are not able to get their workers to help."<sup>81</sup> Mr. Trump said the people of Puerto Rico should not depend entirely on the federal government. "They want everything to be done for them when it should be a community effort," he wrote. "10,000 Federal workers now on Island doing a fantastic job. The military and first responders, despite no electric, roads, phones etc., have done an amazing job. Puerto Rico was totally destroyed."<sup>82</sup>

According to CNN, President Trump's declaration relevant tweet said, "We cannot keep FEMA, the Military & the First Responders, who have been amazing (under the most difficult circumstances) in P.R. forever!"<sup>83</sup>

"In the case of Ms. Cruz, President Trump took her outcry as a personal assault on him. While other presidents generally ignore most of the criticism they invariably attract,"<sup>84</sup> Mr. Trump is prone to rebutting criticism. Responding to Trump's tweets on Saturday, "Ms. Cruz said she would not be distracted by 'small comments' and denied that she was attacking the president at the behest of the Democrats. 'Actually, I was asking for help,' she told MSNBC. 'I wasn't saying anything nasty about the president.'<sup>85</sup> Ms. Cruz became a powerful voice of grievance on Friday when she went on television to plead for help and reject assertions by the Trump administration about how well it was responding. She was incensed by comments made by Elaine Duke, the acting secretary of Homeland Security, who had said on Thursday (September 28) that it was 'really a good news story in terms of our ability to reach people and the limited number of deaths' from the hurricane."<sup>86</sup>

CNN reported in February 2018 that "San Juan Mayor Carmen Yulín Cruz didn't mince her words Wednesday when asked about President Donald Trump's pledges of support to hurricane-ravaged Puerto Rico during his State of the Union speech, denouncing



them as “hypocrisy.”<sup>87</sup> In his speech to Congress, President Trump declared, “To everyone still recovering in Texas, Florida, Louisiana, Puerto Rico, the Virgin Islands, California and everywhere else—we are with you, we love you, and we will pull through together.”<sup>88</sup>

But asked by CNN’s Christiane Amanpour about Trump’s comments, Yulín Cruz said, “The President has not been with the people of Puerto Rico,” and that his words were an “utter statement of hypocrisy.”<sup>89</sup> Mayor Cruz said, “Thirty-five percent of our people do not have electricity. Our children are going to school only part time. Half a million homes are totally disrupted, either need to be rebuilt completely or need to have their roof put back on,” she said of the damage from both hurricanes Irma and Maria, which left more than 3 million Puerto Ricans in need of assistance.<sup>90</sup>

In September, Trump repeatedly criticized Cruz on Twitter after she accused the government of abandoning Puerto Rico. As far as Yulín Cruz is concerned, she told Amanpour, Trump “speaks out of both sides of his mouth.” “On the one hand, he says he wants to help Puerto Rico. On the other hand, he imposed a 20% income tax on every good and service that comes from Puerto Rico into the United States.”<sup>91</sup> On the one hand, he says we will be with you for the long run. And on the other hand, the [Food and Drug Administration] is trying to convince pharmaceutical companies to leave Puerto Rico,” she told Amanpour.<sup>92</sup>

“He says he cares and he came here and threw paper towels at us,” she continued, referring to Trump’s visit to the city of Guaynabo in October. “And on the other hand, he doesn’t provide his administration with a clear set of goals to help Puerto Rico.”<sup>93</sup> Yulín Cruz also slammed FEMA, which announced plans to halt new shipments of food and water to the island by the end of January 2018. “FEMA said mission accomplished. I do not know what mission they have accomplished. Certainly, it wasn’t the mission of doing what they were supposed to do,” Yulín Cruz said.<sup>94</sup>

The disagreement between the president and the mayor of San Juan drew, for a short time, intense news media attention. See “Tell Me More” 9-2 box for a summary of the interchange between *Boston Globe* reporter Matthew Rocheleau and this author.

## TELL ME MORE 9-2

THE AUTHOR’S OCTOBER 2017 INTERVIEW WITH A *BOSTON GLOBE* REPORTER

*Boston Globe* reporter Matthew Rocheleau asking questions. Dr. Richard Sylves (RTS) answering.

- What authority would the president have to do what he is suggesting he might do in terms of pulling back on some/all federal relief to Puerto Rico?

RTS: All U.S. presidents since 1950 have had authority to approve or turn down governor

requests for declarations of major disaster (DR). All U.S. presidents since 1974 have possessed authority to approve or turn down governor requests for emergency declarations (EM).<sup>95</sup> In a nutshell, DRs ordinarily require documentation of economic loss. A scale of state per capita loss, and other criteria, has been used by FEMA (created in 1979) and its predecessor agencies in recommendations to the president

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on whether to approve or reject a governor's request for a DR. Each president has discretion with regard to approving or rejecting a governor's DR request.

Since his inauguration, President Donald Trump has a DR approval rate that is numerically similar to President Obama's; however, I do not have access to his full turndown record so I do not know how his turndown record compares to that of other presidents. It is important to remember that once the president approves a major disaster declaration for a state, as he did for Puerto Rico, he cannot easily go back and restrict federal funding paid out on that disaster declaration, particularly if federally funded public infrastructure repair or replacement projects are under contract. Trump approved a major disaster declaration covering Puerto Rico's Hurricane Maria damage on October 2, 2017, in DR 4339, according to FEMA.

That said, to my knowledge, presidents from Truman to Obama have never threatened early termination of an in-force major disaster declaration; though in fairness, President Trump may not have meant actual cessation of the major disaster declaration he had previously approved for Puerto Rico.

I have asked researchers at the Congressional Research Service the same question you have asked me. Though no one offered attribution of their opinions, the consensus view among several lawyers there was that under the Stafford Act of 1988, a core federal emergency management law, the president (any president) can suspend or terminate an in-force presidential disaster declaration if he or she so desires. However, in my judgment, such an action may be subject to litigation, particularly once federal funds are obligated under a declaration to various state and local post-disaster purposes and once state and local governments begin paying their state/local cost shares on federally subsidized post-disaster projects. So, while the president may possess lawful authority to withdraw an approved, in-force disaster declaration, the implications of such an action could produce lawsuits on other grounds.

- Would he be able to make any such changes unilaterally or would it require approval from Congress and/or other agencies or would he perhaps have unilateral authority to pull back on just certain types of relief efforts while ending other relief efforts would require additional approval beyond the presidency?

RTS: President Trump cannot easily make unilateral changes in the implementation of an in-force presidential declaration of major disaster without legally defensible justification. Were he to do so in the case of Puerto Rico, the president would be subject to lawsuits by offended parties on a variety of grounds. Efforts by the president to single out Puerto Rico for funding penalties or disallowance (or disbarment) might require congressional assent and would need backing in law, perhaps under provisions of an amended Stafford Act.

Puerto Rico's pre-disaster fiscal problems cannot be conflated with federal disaster assistance spending. Should the state government of Illinois be denied federal funding under an in-force major disaster declaration because not long ago it was heavily in debt and lacked a necessary state budget law? The answer is NO—under the U.S. system of intergovernmental relations and under constitutional law.

President Trump, some nine months into his administration, may have still been learning about federal disaster law and policy. FEMA is an executive branch federal agency, not an arm of the White House and not the equivalent of a privately run corporation. A long series of federal laws and policies set forth FEMA's legal obligations and duties. Politically appointed administrators holding positions of authority in FEMA, or any other federal agency, are obligated to consider presidential instructions; however, to have effect those instructions need to come to them in a formal way (not merely through Tweets or presidential remarks). How FEMA distributes and manages its personnel and budgetary resources is not a direct determination of any sitting president, though as leaders of the executive branch, presidents can make some agency

personnel changes, reorganize departments and agencies, re-program a share of congressionally budgeted funds within an agency, and propose agency budget requests to Congress.

- Are there any rules that say the federal government can't pull out of relief efforts if certain conditions still exist (for example, if a certain percentage or number of people are still without power or access to clean water)?

RTS: Here is how a major disaster declaration is closed out. In INDIVIDUAL ASSISTANCE, FEMA monitors the flow and volume of assistance requests being filed by individuals and families. When the volume of requests tapers to a low level or approaches zero for a period of days, FEMA administrators prepare an announcement for the *Federal Register*. That announcement declares that no more requests for individual assistance under the disaster declaration will be accepted after the stipulated date. Sometimes, lawmakers contest this proposal and demand that FEMA extend the deadline owing to late filers or other factors. FEMA sometimes obliges them. It is only after FEMA's published deadline has been passed that individual assistance is officially closed out under a major disaster declaration.

FEMA government-to-government assistance (PUBLIC ASSISTANCE) is more complex because state and local governments must prepare rebuilding or replacement plans for physical structures. State and local governments routinely face a federal/state-local cost share in this program. Usually, state and local governments have only 30 to 60 days to make application for FEMA Public Assistance. It may take months, years, or sometimes a decade, to complete all of the approved project work and spending on disaster-damaged infrastructure. Usually, FEMA does not keep eligibility for this program open for more than three to six months. Often after six months or slightly more, FEMA turns away state and local public assistance requests—this is especially so if the request is for damage NOT CAUSED by the disaster covered under the declaration or if it appears to FEMA officials that the request is to pay for routine maintenance.

- For the money that's already been allocated for Puerto Rico—could that be pulled back or would that money have to be spent?

RTS: Federal money for declared disasters is another matter which President Trump may not understand. There is a Disaster Relief Fund comprised of both an annual congressional infusion of spending authority and "carried over" unspent spending authority for other disasters in previous years. The amount of budget authority residing in the fund fluctuates over time as FEMA draws from it to pay out on its obligations for all presidentially declared disasters whose accounts remain open for spending. A massively expensive catastrophic disaster or series of catastrophes (as we have had with this year's hurricanes) tends to swallow up all of the budget authority in the fund. When this happens, Congress must recapitalize the fund through an appropriation (usually a supplemental [in budget-year] appropriation). This law requires a presidential signature.

If a presidential declaration of major disaster applies to a jurisdiction, let's say Puerto Rico, money FEMA (and other federal agencies with FEMA permission) draws from this fund goes out under the rules of the FEMA program through which it flows. In many respects, under a presidential disaster declaration, FEMA individual assistance is an **entitlement program** as long as recipients meet conditions of eligibility and are not committing fraud. No president can deny this aid or suspend funding once a major disaster declaration has been issued and people have applied for, and have begun receiving, federal aid. Do recall that there is a system for discontinuing individual assistance and no declaration offers permanent eligibility for federal funding.

It may be possible for a FEMA presidential appointee to shift some personnel resources were he or she to receive orders to do that from the president; however, as these officials take an oath to obey the law before they assume their duties, they would have to square this behavior with FEMA's mandated laws and policies as well as with their own conscience.

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- Are the rules/policies around federal disaster relief for Puerto Rico different from rules/policies that exist for U.S. states?

RTS: Puerto Rico is a commonwealth and unincorporated territory of the United States; as such, in the realm of presidential disaster declarations, it holds the same status as an American state. It has only one non-voting observer elected every two years to a seat in the U.S. House of Representatives. This makes it very politically weak when compared to the size of the congressional delegations of Texas and Florida. Puerto Rico's governor is allowed to request presidential declarations of major disaster and emergency, just as governors of states do in the 50 states. Conversely, just as governor requests for declarations of major disaster or emergency are sometimes denied by the president (almost invariably on the basis of need), the PR governor's original request for such declarations may be lawfully denied by a president. Different U.S. Trust and Commonwealth Territories are linked to the United States under treaties and conventions that may vary based on what was agreed to originally and what changes may have been approved by both parties over time by U.S. Trust and Commonwealth Territories in the Caribbean and Pacific. However, if the operative convention or treaty holds that the jurisdiction in question can request and receive presidential declarations of major disaster and emergency, then that jurisdiction's governor or governor-equivalent is on par with every state governor in the United States.

- Can you think of any other cases in which a president or other federal leader has pulled back on federal disaster aid and/or threatened to do so?

RTS: No, I cannot. Some presidents have expressed dismay when they believed states and localities were gaming federal disaster relief at the expense of the national taxpayer (e.g., changing building codes to a much higher and expensive standard when federal assistance would cover most of this new cost. Or when governors seek to add more counties to a major disaster declaration when those counties in fact experienced barely qualifying levels of loss, etc.).

Presidents have had disagreements with governors and big-city mayors in times of disaster but a president publicly rebuking them through threats to diminish federal post-disaster assistance personnel or funding is something of a first. Sometimes what a president says is not manifested in what they do. Also, a presidential statement on its own is, as mentioned, not enough to compel federal officials to act on the intent of the statement: "policy through speech" so to speak.

President Trump may have been trying to spur Puerto Rico to reassume more of its rebuilding and recovery obligations. The major difference between Hurricanes Harvey & Irma versus Hurricane Maria is that the first two did not incapacitate state and local emergency management in Texas or Florida, respectively. However, Maria may well have incapacitated Puerto Rico's state and local emergency management. Moreover, Puerto Rico is a 100-mile-long, 35-mile-wide island located more than a thousand miles from Florida. Consequently, its recovery is doubly difficult and its dependency on FEMA and other federal recovery agencies for help might seem protracted, perhaps even to the president.

Before closing this "problems" section, students of the field of emergency management should read and review FEMA's July 12, 2018, "2017 Hurricane Season FEMA After-Action Report." In some respects, this report is lightly penitential for the agency, especially with respect to its response to Hurricane Maria in Puerto Rico. Some of its many findings are as follows:

- FEMA leaders at all levels made major adaptations to agency policy and programs to respond to significant operational challenges during the hurricane

season. FEMA's plans guided response operations, but improvements to the planning process and format are needed to better usability during operations. FEMA could have better leveraged open-source information and preparedness data, such as capability assessments and exercise findings, for Puerto Rico and the U.S. Virgin Islands.<sup>96</sup>

- FEMA entered the hurricane season with a force strength less than its target, resulting in staffing shortages across the incidents. The agency has made progress on disaster workforce certification, but had not achieved its targets. Field leaders reported some resultant inefficiency in program delivery. FEMA strategically consolidated ongoing disaster operations facilities across the country to reallocate personnel to the hurricane-affected field operations, which increased capacity to deliver FEMA programs.<sup>97</sup>
- FEMA assumed a more active role in coordinating whole community logistics operations for Puerto Rico and the U.S. Virgin Islands due to the territories' preparedness challenges, geographic distance, and pre-existing, on-the-ground conditions. While FEMA mobilized billions of dollars in commodities, the agency experienced challenges in comprehensively tracking resources moving across multiple modes of transportation to Puerto Rico and the U.S. Virgin Islands due to staffing shortages and business process shortfalls. FEMA provided logistical coordination to move and distribute commodities from staging areas to survivors in Puerto Rico, supplementing a role that should largely be managed and coordinated at the state or territory level. In a three-month period, FEMA issued more contract actions than in an entire previous fiscal year to meet disaster requirements, which strained the Agency's contracting personnel.<sup>98</sup>
- To overcome limited situational awareness created by the loss of communications in Puerto Rico, FEMA found creative solutions to assess the situation and prioritize response activities, including emergency repairs to infrastructure. Also, challenged by an inoperable telecommunications environment in Puerto Rico, FEMA had to adapt field communications, program delivery, and command and control activities. FEMA and its federal partners installed a record number of generators to provide temporary power to critical infrastructure while facing significant challenges in identifying generator requirements and shortfalls in available generators.<sup>99</sup>
- As part of the federal government's response to three near-simultaneous incidents, FEMA deployed more than 17,000 personnel, including 4,063 non-FEMA and non-Department of Defense (DOD) federal employees through the federal Surge Capacity Force (SCF) and other methods. By comparison, FEMA deployed 9,971 staff for Hurricane Sandy response operations in 2012. In addition, DOD deployed nearly 14,000 personnel to affected areas across three different FEMA regions.<sup>100</sup>
- Between August 25 and October 16, President Trump issued a total of 20 disaster or emergency declarations for the three storms: Hurricane Harvey (3 declarations), Hurricane Irma (13 declarations), and Hurricane Maria



(4 declarations). Through its Incident Management Assistance Teams (IMATs), FEMA provided a forward federal presence of senior-level emergency managers to support the impacted states and territories in preparing for and responding to the storms. At the height of concurrent operations, all 28 of FEMA's National Urban Search and Rescue Task Forces rapidly deployed to support life-saving operations, searching more than 30,900 structures, and saving or assisting nearly 9,500 people. By the end of the hurricane season on November 30, more than 4.7 million households affected by hurricanes Harvey, Irma, and Maria had registered for federal assistance with FEMA, more than all who registered for hurricanes Katrina, Rita, Wilma, and Sandy combined.<sup>101</sup>

- Nearly simultaneously, the response to the historic wildfires across the Western United States, including 5 of the 20 most destructive wildfires in modern California history, required the deployment of additional FEMA personnel, commodities, and equipment. As of November 30, the fires had claimed 44 lives and damaged or destroyed nearly 10,000 structures. The response to the California Wildfires required a greater amount of DOD contracts and mission assignments than the hurricane response in support of Texas and Florida combined.<sup>102</sup>

## COMPARISONS

CNN reported, "Almost a week since Hurricane Maria devastated Puerto Rico, the U.S. recovery efforts there have been markedly different from the recovery efforts after Hurricane Harvey in Texas and Irma in Florida. Fewer FEMA personnel are in place. Grassroots donations from fellow Americans are much smaller."<sup>103</sup> Furthermore, Puerto Rico remained without power, and President Donald Trump had yet to visit.

CNN added, "Those differences are partly because of issues unique to Puerto Rico, an island that already had a weakened infrastructure, a government struggling through bankruptcy—and that had only just been hit by Hurricane Irma. In addition, each hurricane posed different threats and caused different problems. Harvey brought massive flooding, Irma deadly storm surges, and Maria catastrophic high winds."<sup>104</sup> The total number of FEMA personnel, including surge workers, was another point of difference when comparing the hurricanes.

*Hurricane Harvey:* For Hurricane Harvey, FEMA had supplies and personnel positioned in Texas before the storm made landfall on August 25. Within days, the number of FEMA employees, other federal agencies, and the National Guard deployed topped 31,000.<sup>105</sup> In addition, FEMA supplied 3 million meals and 3 million liters of water to Texas to be distributed to survivors.

*Hurricane Irma:* "Even more federal personnel responded to Hurricane Irma when it made landfall in Florida on September 10. More than 40,000 federal personnel, including 2,650 FEMA staff, were in place by September 14. In addition, FEMA had transferred 6.6 million meals and 4.7 million liters of water to states in the Southeast after Irma as of the 14th."<sup>106</sup>

*Hurricane Maria:* By comparison, Puerto Rico and the Virgin Islands saw much fewer personnel after Hurricane Maria hit, according to FEMA. In a tweet on the Monday after the storm hit, FEMA said that more than 10,000 federal staff were on the ground in Puerto Rico and the Virgin Islands assisting search and rescue and recovery efforts. FEMA announced that “thousands” of federal staff, including 500 FEMA personnel, were on the ground in Puerto Rico and the U.S. Virgin Islands as of Tuesday morning.<sup>107</sup> White House press secretary Sarah Sanders defended the federal response to Hurricane Maria on Monday as “anything but slow.”<sup>108</sup>

Speed of response and presidential visits are added issues for comparison.

*Hurricane Harvey:* Trump visited Texas twice after Hurricane Harvey. The first visit came on August 29, four days after the storm first made landfall. There, he met with local, state, and federal officials in Austin and Corpus Christi.

On September 2, Trump made a second visit to Texas, during which he visited a shelter and handed out boxed lunches with First Lady Melania Trump.

*Hurricane Irma:* After Hurricane Irma struck Florida, Trump visited the state on September 14, four days after the storm landed. He surveyed the damage, distributed meals in Naples in a hard-hit mobile home community, and thanked federal disaster relief officials in Fort Myers.

*Hurricane Maria:* Trump said that he would visit Puerto Rico the following Tuesday, which would be about two weeks after Hurricane Maria. That was the earliest date he could reach the island due to first responders’ ongoing relief and recovery efforts, he said. He also said he would likely stop in the Virgin Islands as well.

“Some people say, I read it this morning, it’s literally destroyed,” Trump said, adding, “The infrastructure was in bad shape as you know in Puerto Rico before the storm, and now in many cases, it has no infrastructure, so it’s—you’re really starting from almost scratch.”

At the time, President Trump said that the recovery was more difficult in Puerto Rico because of its geography. “It’s very tough because it’s an island,” Trump said. “In Texas, we can ship the trucks right out there, you know, we’ve got A-pluses on Texas and Florida and we will also on Puerto Rico, but the difference is this is an island sitting in the middle of an ocean, and it’s a big ocean.”

FEMA administrator Brock Long also noted Tuesday that Puerto Rico’s international airport<sup>109</sup> in San Juan was operating at a limited capacity, which made moving resources into the area more difficult.

## Donations and the Hurricanes

*Hurricane Harvey:* The destruction in Houston from Hurricane Harvey prompted an outpouring of monetary donations. As of September 2, companies had pledged more than \$157 million in relief efforts, and 69 companies had donated \$1 million or more, according to the U.S. Chamber of Commerce.

Houston Texans defensive lineman J. J. Watt was the most prominent celebrity advocate of those donations, and he personally helped marshal \$37 million before closing his fundraising effort on September 15. Separately, all five living former U.S. presidents joined together to raise money for storm relief under the One America Appeal site.

*Hurricane Irma:* Hurricane Irma's impact on Florida sparked a new wave of donations. Corporate donations for Harvey and Irma relief combined exceeded \$222 million, according to the U.S. Chamber of Commerce.

*Hurricane Maria:* Donations for Hurricane Maria were much smaller by comparison. NBA star Carmelo Anthony, whose father is Puerto Rican, raised about \$240,000 very quickly after the storm hit. Corporate donations were similarly limited, and four companies gave a collective \$8.1 million, according to the U.S. Chamber of Commerce.

The federal spending response is another basis for comparison.

*Hurricane Harvey:* Trump signed a bill that included emergency funding for hurricane relief on September 8, about two weeks after Hurricane Harvey hit. The bill, part of a deal struck between Trump and Democratic leaders, included about \$22 billion for FEMA's disaster relief fund, \$15 billion of which was new funds.

In late August, FEMA had \$5.03 billion available for disaster spending between then and the end of September 2017, a FEMA spokesperson told CNN. The disaster relief fund was replenished with another \$6.7 billion in October when the new fiscal year (FY 2019) began.

*Hurricane Maria:* White House spokesperson Sarah Huckabee Sanders said shortly after the storm hit that it was too early to identify a spending amount to request from Congress. "Once we have a greater insight into the full assessment of damage then we'll be able to determine what additional funds are needed but we're still in that ... fact-finding process on that piece of it," she said. House Speaker Paul Ryan and other congressional leaders said there was a "humanitarian crisis" in Puerto Rico because of the storm. "This is our country and these are our fellow citizens. They need our help and they're going to get our help," Ryan said. As examined previously in this chapter, in comparative terms, it took the federal government and Puerto Rico's government a considerable amount of time to conduct damage assessments and to ascertain individual and household needs. Such information is used in formulating post-Maria federal budget requests. Also unhelpful was that Hurricane Maria struck very close to the start of the new federal fiscal year, October 1, 2017. Congress has great difficulty formulating and enacting budgets for any new fiscal year, such that new funding requests to cover Maria's burgeoning costs short-circuited federal budgeting even more than the two preceding hurricanes.

## LESSONS LEARNED

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*The Economist* observes, "Whatever happens this hurricane season (2018), preparation will only become more important in the long run. According to the Congressional Budget Office, damage from hurricanes is expected to grow in the coming decades—in part because of climate change, which will cause sea levels to rise and increase the frequency of the most intense storms."<sup>110</sup>

*The Economist* adds, "America's policymakers would get better bang for their buck if they made greater efforts to prepare for disasters ahead of time. The National Institute of Building Sciences, a trade group, reckons that each dollar spent on disaster mitigation can save as much as six dollars in future losses. Yet such spending has been declining for over a decade. This year Donald Trump, who gave himself a grade of A+ for his responses to last year's hurricanes, proposed \$61 million in cuts to FEMA's Pre-Disaster Mitigation grant programme—a 61% reduction."<sup>111</sup>

One of the thorniest issues plaguing Puerto Rico was restoring or replacing its electricity grid in the months after Maria struck. Most Americans consider it “disastrous” to lose power, Internet, and cell services for more than four or five hours. They have become so accustomed to continuous delivery of power, telephonic, and Internet services that they have watched their governments, at all levels, come to rely on such services to carry out their operations when big or small disasters and emergencies occur. Immensely grandiose national plans woven into nearly every program office of the U.S. Department of Homeland Security largely exist as sets of electrons in DHS computer hardware, software, and in the cloud. FEMA has four means of processing applications from individuals and households for post-disaster assistance, and they all rely on some combination of power availability, Internet service, or cell/telephone availability. FEMA invites applications but through registering for online help at [DisasterAssistance.gov](http://DisasterAssistance.gov) or by linking with FEMA via smartphone. Alternatively, victim survivors are also invited to call the toll-free registration number at 1-800-621-FEMA (3362). FEMA even touts the availability of its app, which can be uploaded to one’s cell phone. The agency adds, “If **Disaster Recovery Centers [DRCs]** have been established in your area, they can assist you in the registration process.”<sup>112</sup> However, if you are fortunate to be near one, these centers rely on power and emergency communications equipment, neither of which are continuously available in the days after a disaster as comprehensively destructive as Maria.

To compound this dependency on power, Internet, and cell technologies, shockingly, *FEMA does not take written applications for aid sent by mail*. Assuming one is able to file a complete application through one of the methods mentioned, FEMA then asks for a checking account number and a bank routing slip so they can dispatch your “direct deposit” money via email to your bank. If a person lived in Puerto Rico, and was lucky enough to file a claim in the weeks after Maria, even months later, there would have been no guarantee one’s bank in Puerto Rico would have had power and/or Internet service enabling the processing of FEMA’s emailed check.

Back to Puerto Rico’s electric power plight: Electric utilities on the U.S. mainland, be they privately or publicly owned, generally work within regulated standards, own and maintain similar equipment, and operate with robust mutual aid agreements. Power generators and distributors work through intricate power pools that buy, sell, or trade electricity at rapid speed. “The system relies on interdependence and industry mutual aid. For example, in August and September of 2017, utility workers from Delaware, Pennsylvania, the Midwest, the Northeast, and elsewhere set off in convoys of trucks converging on Harvey and Irma power-loss zones in the South, and many were away for weeks. The same utilities did not show up in Puerto Rico for many weeks, and their workforces there were far less than for Harvey and Irma. When asked why they could not respond as they did to Texas and Florida, power crew officials complained, first, movement to an island more than a thousand miles from the tip of south Florida requires innumerable airline flights and massive water-freight shipments of both their equipment and personnel (in some cases, barging). Second, Puerto Rico’s electric grid was so outmoded that mainland crews did not know how they could repair it short of completely replacing it. Third, they were uncertain that they would ever be paid for their work (usually double over-time rates), installed equipment, and living expenses. Remember, that Puerto Rico’s major utility was verging on bankruptcy before Maria. Fourth, workers dispatched to Puerto Rico would be expected to know at

least minimal Spanish, something important when working in teams with dangerous power equipment at or above ground.” The landscape was often inhospitable for visiting utility workers as they were expected to trudge into steep terrain and thick jungles equipped with few accurate maps identifying the route of powerlines and towers.<sup>113</sup>

According to *E&E News*, Hurricane Irma was one of the strongest Atlantic hurricanes ever. It caused power blackouts that affected more than 6 million mainland customers in Florida, Georgia, and South Carolina. Ninety-five percent of those who lost electricity got it back in two weeks. However, Hurricane Maria, a Category 4 storm, collapsed the grid for all of Puerto Rico’s 1.5 million electric customers. It took 15 weeks for the power company to regain the ability to even estimate how many customers were without power (45 percent). Service slowly returned and reached 96 percent, only to have the entire grid fail again in mid-April 2018.<sup>114</sup>

Shortly after Maria hit Puerto Rico, two thirds of electrical substations were flooded or heavily damaged. The same was true for the switchyards. Power plants, many on the coast, had been flooded by surging seas, and wind had battered cooling towers and turbines. However, most horrifying for utility experts was damage to “[t]he transmission system—I’ve never seen so much damage to a transmission system,” Carlos Torres said, referring to the long-haul lines that deliver from power plant to customer.<sup>115</sup> Torres of Consolidated Edison (of New York) is vice president of emergency management for the utility. He was sent to assess the power problem in Puerto Rico. “A mainland hurricane of terrific force, like Katrina, might damage 20 percent of transmission towers. Maria was the reverse. Only 20 percent were functioning, and many of the 80 percent damaged had fallen from wind or foundered in mudslides.”<sup>116</sup>

It was only on October 31, 2017, six weeks after the storm hit and after the Trump administration guaranteed that it would cover all grid-related expenses, that PREPA (Puerto Rico’s electric utility) requested aid from the mainland. Unlike many mainland utilities, PREPA (Puerto Rico Electric Power Authority) had no command structure in place for recovering from an emergency. Torres needed to create one from scratch. With no other template, he organized the same way he had in New York and created regional incident-management teams to run the seven regions that make up PREPA’s grid.<sup>117</sup>

On several occasions, Puerto Rico’s governor has criticized the U.S. Army Corps of Engineers for a lack of urgency. On another, the Army Corps entered a PREPA warehouse and found supplies it was hoarding. Other tensions have existed behind the scenes. The Army Corps, several of its contractors, the U.S. Department of Energy, FEMA, and several mainland power utilities endeavored to work out the problem with Puerto Rico’s utility workers. “They’ve taken it very well. Maybe in the beginning they weren’t,” Torres said of PREPA. The Puerto Rico disaster marks the first time that control of a recovery was taken out of the hands of the home utility. And the territory’s status as a possession of the United States made the takeover even more grating to PREPA workers.<sup>118</sup> Moreover, as the mainland incident management teams arrived, miscommunication was common. Puerto Rico’s utility workers think and speak in Spanish. And the island’s removal from the mainland led to disconnects over technical jargon. Paul Vasquez, a supervisor for Austin Energy who ran logistics for a regional management team, said that calling things by different names led to some early delays. He said, “For the longest time, we didn’t even think they had any maps or data that showed where their lines went. We would struggle to get some piece of information. Then we learned that they had it.”<sup>119</sup>

A report has estimated that truly making Puerto Rico's grid hurricane-ready—including rerouting transmission lines off the mountaintops, hardening substations and towers, and moving to a more decentralized grid powered by more renewable energy—would cost \$17.6 billion and take a decade.<sup>120</sup> Not to be overlooked is Maria's impact on the neighboring U.S. Virgin Islands and its 100,000 residents. Power there was only fully restored in March 2018.<sup>121</sup>

## Summary

The federal response to all three hurricanes was immense but uneven. Had Harvey been the only catastrophic landfalling U.S. hurricane in 2017, FEMA, other responding federal agencies, and the White House would have probably earned generally high marks for their response and recovery actions. However, this was not to be. Soon after Harvey devastation, Hurricane Irma tracked through the eastern Caribbean, struck many populated islands there, including the Virgin Islands and Puerto Rico, and tore through the Florida Keys. It then nearly bisected the Florida peninsula from south to north. Irma rolled on into Georgia, eastern Alabama, and parts of South Carolina before eventually breaking up over Tennessee. In many ways, Irma complicated Harvey and Maria relief, although the damage Irma inflicted and the costs it imposed on victims was every bit as deserving of national attention as the two hurricanes that bookended it.

With all due respect to Sebastian Junger, Maria was “the Perfect Storm” of 2017. Maria, a powerful Category 4 hurricane that at times threatened to go to Category 5, almost razed the entire island of Puerto Rico. Whereas Harvey and Irma posed challenges for the states and territories they struck neither storm disabled state governments, nor most local government operations. Not so for Maria. Hurricane Maria destroyed homes, hospitals, roads, public buildings and infrastructure, businesses, and farms that were the livelihood of several million Puerto Rican citizens. Landslides

blocked roads, countless trees of every type were damaged or destroyed, and belongings were strewn over the landscape. Many had to ride out the storm in basements or shelters as the roofs of their homes blew off. Puerto Rico's central and municipal governments were legitimately overwhelmed by Maria for several weeks. While major parts of east Texas, Louisiana, Florida, the Virgin Islands, and Puerto Rico lost electrical power and cell tower service from Harvey and Irma, Maria destroyed Puerto Rico's already outmoded and questionably run electric utility service.

The state and local response for each of the three hurricanes is more difficult to judge. Clearly, the Texas General Land Office was challenged by assuming FEMA's temporary housing duties. Search and rescue reports for Harvey in Texas were laudable. One might ask whether the temporal order of the hurricanes made a difference. Hurricane Harvey for the people of east Texas produced protracted rainfall amounts of seemingly biblical proportions. Thirty, 40, 50 inches of rain falling within a period of days challenges even the most farsighted flood-fighting and mitigation advocates.

Irma, as the intermediate hurricane, compounded the problems in managing Harvey recovery in Texas and hobbled mobilization in the wake of Hurricane Maria. While not the most devastating of the three, Irma was the most expansively troublesome of the three. Military resources were rapidly mobilized for Harvey and Irma, but Puerto Rico had trouble calling up even a third of its National



Guard soldiers. Worse still, assets of the U.S. Navy were not deployed to the island with alacrity.

This chapter opened with the following question: Have the dramatic changes that both FEMA and DHS have undergone in policy and management since 2014–2015 deleteriously affected post-disaster government assistance to states, localities, and disaster victims in 2017 or possibly beyond this time? Clearly, DHS and FEMA are “on the same page” more today than at the time of Hurricane Katrina. In some respects, FEMA is now better able to draw on the workforce and capabilities of greater DHS. However, FEMA’s workload, particularly in grants management, has become ponderous. The culture of FEMA has changed in part because its workers now must work and build relationships with people of other DHS offices. Emergency management still has a central place in the work of the agency. FEMA people, however, are far more locked into the counter-terrorism mission of DHS and its many terrorism-focused organizations than has been the case in the past. Will the day come when FEMA people see themselves more as counter-terror authorities than as federal disaster management authorities? On a more positive note, FEMA’s links to state and local emergency management remain strong, but as Chapter 6 made clear, homeland security has a growing presence in state and local law enforcement and military affairs. Under Administrator Long’s leadership,

FEMA developed Integration Teams in July 2017. These are teams of highly trained and experienced FEMA workers, some of them technical experts, sent to work with state, local, territorial, and tribal government officials on a phased basis when needed. FEMA Integration Teams work through FEMA’s respective regional administrators. FEMA’s July 2018 After-Action Report on the 2017 Hurricane Season recommends that such teams be used to build state emergency management capacity.<sup>122</sup>

In conclusion, the story of the three hurricanes of 2017 is NOT one of FEMA incompetence or presidential indifference to the disaster plight of two U.S. territories in the Caribbean. The story flows more from the force and duration of the disaster agents themselves. On top of this, what seems to have made a difference in each hurricane is physical geography, differences in levels of disaster planning, economic health and demographics, donor fatigue, and the fact that Puerto Rico has only one non-voting observer in the U.S. House of Representatives (while Texas has two senators plus 36 Congress members and Florida has two senators and 27 Congress members). The recovery and build-back after these hurricanes, if conducted with reasonable disaster mitigation in mind, could go far in augmenting the resilience of the hardest hit states, including the Commonwealth of Puerto Rico.

## Key Terms

Accumulated Cyclone  
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Disaster recovery centers  
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