Appendix II: Federal Appropriations and FEMA Obligations for the 2017 Hurricanes and California Wildfires

Overview

The Federal Emergency Management Agency's (FEMA) Disaster Relief Fund (DRF) is the primary source of federal disaster assistance for state and local governments. Congress appropriates no-year funding for the DRF, which allows FEMA to fund, direct, coordinate, and manage response and recovery efforts associated with domestic disasters and emergencies.

In addition to DHS, at least 29 other agencies carry out disaster assistance programs and activities. Some of these programs exist for the express purpose of supporting disaster response efforts and others are disaster-eligible—not specifically designated for disasters but able to be used for this purpose.

Federal Appropriations

Since the 2017 hurricanes and California wildfires, Congress and the President have provided the Department of Homeland Security (DHS) and 18 other federal agencies with at least $120 billion in supplemental appropriations for activities related to these disasters.[1] Table 2 summarizes these appropriations by agency.

Table 2: Supplemental Appropriations For 2017 Hurricanes and California Wildfires

Agency	Purpose	Amount appropriated (in billions of dollars)[a]
Department of Homeland Security	For the Federal Emergency Management Agency Disaster Relief Fund, among other disaster-related purposes	50.7
Department of Housing and Urban Development	For restoration of infrastructure and housing and economic revitalization in impacted areas, among other disaster-related purposes	35.4
Department of Defense	For Army, Navy, Air Force and Marine Corps, expenses related to the 2017 hurricanes and Army Corps of Engineers construction of flood and storm damage reduction projects, among other disaster-related purposes	18.6[b]
Department of Agriculture	For expenses related to crops, trees, bushes, and vine losses; nutrition assistance; and wildland fire suppression operations, among other disaster-related purposes	5.5
Department of Education	For assisting in meeting the educational needs of individuals affected by a covered disaster or emergency, among other disaster-related purposes	2.7[c]
Small Business Administration	For direct loans to small businesses and associated expenses	2.1
Department of Transportation	For aviation, highway, and transit system expenses related to the consequences of the 2017 hurricanes, among other disaster-related purposes	1.8

[1]Supplemental Appropriations for Disaster Relief Requirements Act, 2017, Pub. L. No. 115-56, div. B, 131 Stat. 1129, 1136 (2017); Additional Supplemental Appropriations for Disaster Relief Requirements Act, 2017 Pub. L. No. 115-72, div. A, 131 Stat. 1224, 1224 (2017); Further Additional Supplemental Appropriations for Disaster Relief Requirements Act, 2018, Pub. L. No. 115-123, div. Supplemental Appropriations for Disaster Relief Requirements Act, 2018, Pub. L. No. 115-123, div. B, subdiv. 1, 132 Stat. 64, 65 (2018).

Agency	Purpose	Amount appropriated (in billions of dollars)[a]
Department of Health and Human Services	For Centers for Disease Control and Prevention expenses directly related to the consequences of the 2017 hurricanes, among other disaster-related purposes	1.1
Department of Commerce	For expenses related to flood mitigation, disaster relief, long-term recovery, and restoration of infrastructure in areas affected by the 2017 hurricanes, among other disaster-related purposes	1.0
10 other federal departments and agencies receiving less than $1 billion		1.2
Total		**120.0[d]**

Source: GAO analysis of disaster-related supplemental appropriations acts. I GAO-18-472

Note: The supplemental appropriations provided up to $78.5 million for GAO and nine Inspectors General for oversight activities related to the expenditure of these funds.

[a]Some of the funds included in this table are no-year funds while others are available for specific periods of time. We do not include conditions, requirements, or authorities related to the use of funds.

[b]Does not include transfers of unobligated balances from prior fiscal years.

[c]Does not include indefinite appropriations authorized to forgive any outstanding balance owed to the Department of Education under the Historically Black College and University Hurricane Supplemental Loan program.

[d]Column does not sum to total due to rounding.

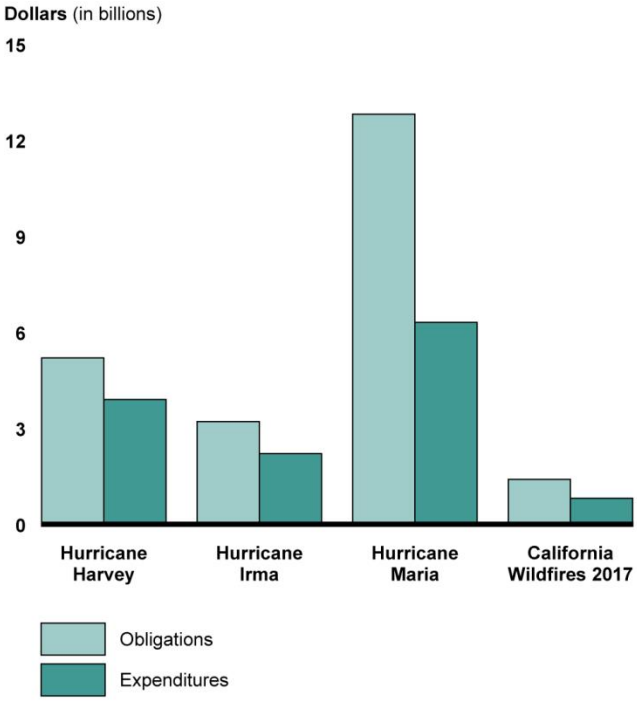
FEMA Disaster Relief Fund Obligations and Expenditures

FEMA reports monthly to Congress on its obligation and expenditure of DRF funds.[2] As of April 30, 2018, FEMA reports having obligated approximately $22.6 billion from the DRF for response and recovery efforts for the 2017 hurricanes and California wildfires, of which FEMA reports having expended a little over half—approximately $13.2 billion. FEMA projects obligating a total of about $30 billion by the end of fiscal year 2018.

Thus far, Hurricane Maria accounts for the highest amount of DRF obligations—$12.8 billion—followed by hurricanes Harvey and Irma. The 2017 California wildfires account for the smallest amount—approximately $1.4 billion obligated through April 30, 2018. See figure 15.

[2]An obligation is a definite commitment that creates a legal liability of the government for the payment of goods and services ordered or received. An expenditure is an amount paid by federal agencies, by cash or cash equivalent, during the fiscal year to liquidate government obligations. Whereas appropriations may, among other things, stipulate a federal agency's discretionary budget authority, obligations and expenditures are generally a better measure of the actual federal commitment (spending) of dollars on the provision of goods and services.

Figure 15: Disaster Relief Fund Obligations and Expenditures for Hurricanes Harvey, Irma, Maria, and California Wildfires, Through April 30, 2018



Source: GAO analysis of Federal Emergency Management Agency data. | GAO-18-472

Notes: The data presented include obligations and expenditures incurred through April 30, 2018. Total obligations reported here include deobligations, meaning that they reflect cancellations or downward adjustments of an agency's previously incurred obligations. The Department of Homeland Security and other federal agencies have also spent non-Disaster Relief Fund funds responding to these disasters; these additional costs are not reflected here.

FEMA tracks its DRF obligations in five categories—called programs:

(1) **Individual Assistance**: The Individual Assistance Program provides financial assistance directly to disaster victims for the necessary expenses and serious needs that cannot be met through insurance or low-interest Small Business Administration loans, such as temporary housing assistance, counseling, unemployment compensation, or medical expenses.

(2) **Mission Assignment**: Work orders FEMA issues that direct another federal agency to utilize its authorities and the resources granted to it under federal law in support of direct assistance to state, local, tribal, and territorial governments.

(3) **Public Assistance**: The Public Assistance program provides financial assistance to state, tribal, territorial, and local governments for activities including debris removal; emergency protective measures; and the repair, replacement, or restoration of disaster-damaged, publicly-owned facilities.

(4) **Administration:** Costs for FEMA's delivery of disaster assistance including the salary and travel costs for the disaster workforce, rent and security expenses associated with field operation locations, and supplies and information technology for field operation staff, among other things.

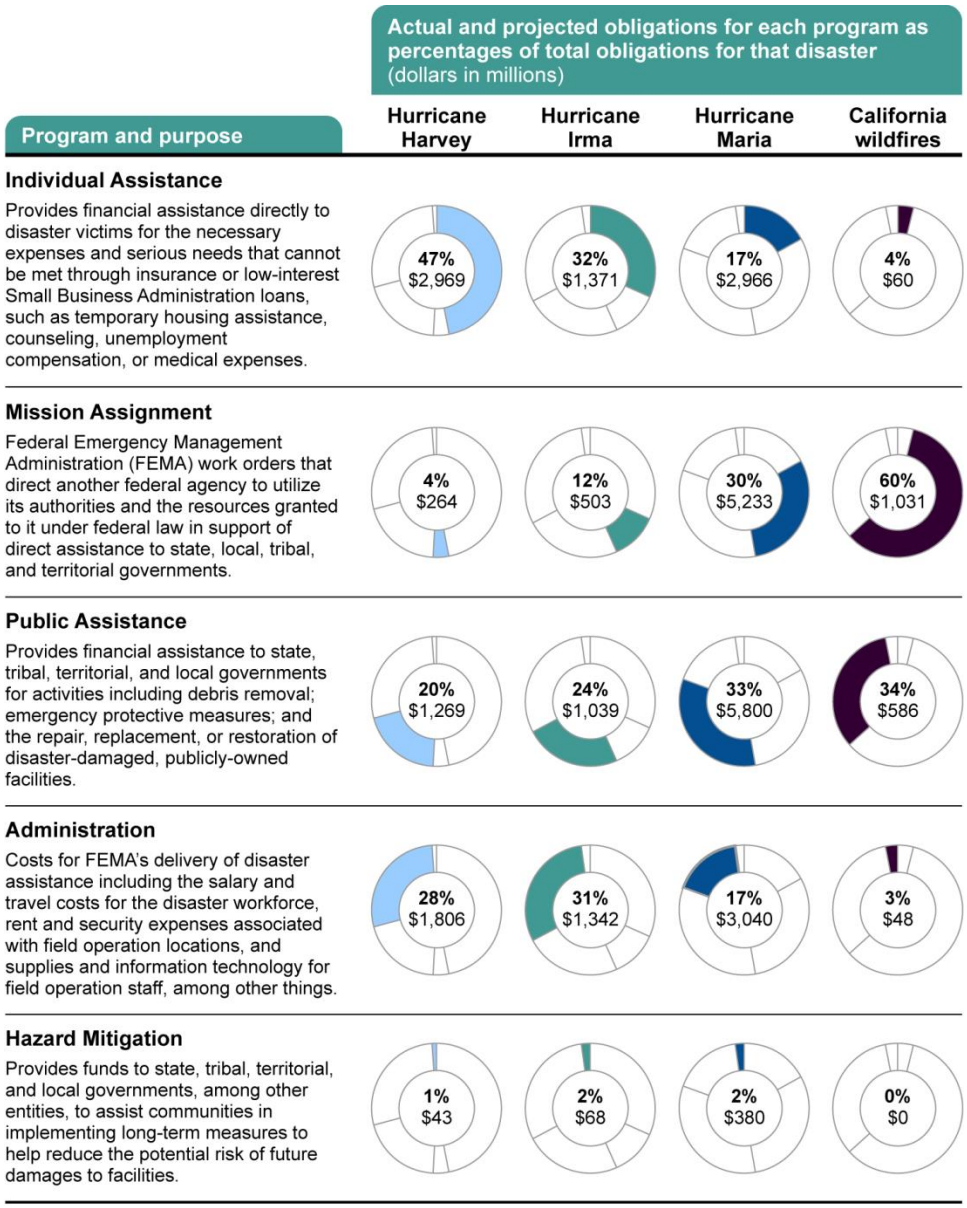
(5) **Hazard Mitigation:** The Hazard Mitigation Program provides funds to state, tribal, territorial, and local governments, among other entities,

to assist communities in implementing long-term measures to help reduce the potential risk of future damages to facilities.

The proportion of funding obligated for each type of program varies as the disaster moves from more immediate response efforts to longer term response and recovery efforts. According to FEMA officials, soon after a disaster, Individual Assistance costs are typically the first to be obligated over a period of about 18 months. FEMA officials stated that mission assignment funds are also generally obligated during the response phase of a disaster, though the exact timing depends on how long it takes FEMA to receive and validate invoices from other federal agencies. Public assistance funds generally take longer to obligate—up to 10 years following a disaster—due to the complexity of funding for large public infrastructure projects, according to FEMA officials. Finally, FEMA officials stated that hazard mitigation funding is typically the last to be obligated, often many years after the disaster, as the response and recovery efforts abate.

The proportion of funding obligated for each type of program also varies due to other characteristics of the disaster. For example, mission assignment obligations comprised 60 percent of all actual and projected DRF obligations for the California wildfires and 4 percent of all such obligations for Hurricane Harvey. According to FEMA officials, neither the state of California nor the local counties had the capability or capacity to immediately take on the task of debris removal in response to the 2017 California wildfires, so FEMA funded this through a U.S. Army Corps of Engineers mission assignment. In another example, the administration costs are projected to be highest for Hurricane Irma—31 percent—and lowest for the California wildfires—3 percent. FEMA officials explained that the administrative costs for the 2017 California wildfires are much less because the majority of the wildfire costs were funded through mission assignments to the U.S. Army Corps of Engineers. These officials also stated that they expect the administrative costs for Hurricane Irma to decrease when program delivery levels off. See figure 16 for the actual and projected DRF obligations by program.

Figure 16: Actual and Projected Disaster Relief Fund Obligations For 2017 Hurricanes and California Wildfires, By Program and Disaster



Source: GAO analysis of FEMA data. | GAO-18-472

Note: These cost figures reflect obligations incurred as of April 30, 2018, and obligations projected through September 30, 2018. Mission assignment obligations include obligations for Urban Search and Rescue.

Contact

View GAO-18-472. For more information, contact Chris Currie at (404) 679-1875 or curriec@gao.gov.

Prior Relevant GAO Reports on Disaster Costs

Federal Disaster Assistance: Federal Departments and Agencies Obligated at Least $277.6 Billion during Fiscal Years 2005 through 2014. GAO-16-797. Washington, D.C.: September 22, 2016.

Federal Emergency Management Agency: Opportunities Exist to Strengthen Oversight of Administrative Costs for Major Disasters. GAO-15-65. Washington, D.C.: December 17, 2014.

Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction's Capability to Respond and Recover on Its Own. GAO-12-838. Washington, D.C.: September 12, 2012.

Appendix III: Federal Response Coordination during the 2017 Hurricanes and California Wildfires

Overview

Major disasters such as the sequence of historically powerful hurricanes and damaging wildfires experienced in 2017, pose a challenge to national emergency preparedness.

The *National Response Framework* (NRF) states that the Secretary of Homeland Security is to ensure that preparedness actions are coordinated to prevent gaps in the federal government's efforts to respond to all hazards. Further, the NRF identifies Emergency Support Functions (ESF) that serve as the federal government's primary coordinating structure for building, sustaining, and delivering response capabilities. The ESFs define specific functional areas—such as communication, transportation, and energy—for the most frequently needed capabilities during an emergency to help coordinate the provision of assets and services by departments and agencies.

FEMA executes these support functions through "mission assignments," directing another federal agency to complete a specific task and citing funding, managerial controls, and guidance.

Federal Preparedness Activities Prior to Each Hurricane

Response activity for major disasters relies on coordination among federal, state, local and territorial governments, as well as on preparedness activities at all levels. The Federal Emergency Management Agency (FEMA), in coordination with the states and territories, took several actions in advance of the hurricanes in Texas, Florida, Puerto Rico and the U.S. Virgin Islands to help prepare for the disasters, as shown in table 3.

Table 3: Examples of Federal Disaster Preparedness Activities Undertaken Prior to the 2017 Hurricanes, By Location

Preparedness Activity	Hurricane Harvey in Texas as of August 25, 2017	Hurricane Irma in Florida as of September 9, 2017	Hurricane Irma in Puerto Rico and the U.S. Virgin Islands as of September 6, 2017	Hurricane Maria in Puerto Rico and the U.S. Virgin Islands as of September 19, 2017
Urban Search and Rescue Personnel Deployed	6 task forces	1,303	1,430	276
Incident Management Assistance Teams Deployed[a]	1 national 3 regional	0 national 1 regional	2 regional	1 national 2 regional
Federal Workforce Deployed	784	16,639	2,257	2,763
Disaster Medical Assistance Teams Deployed	0	13	1	0
Number of Generators Delivered	35	0	24	4
Commodities Delivered	306,966 Meals and 96,978 liters of water delivered	4.8million meals and 9.9M liters of water delivered	1 million meals, and 2 million liters of water delivered	1,617,241 meals, and 698,570 liters of water delivered
Open Shelters	7 shelters open in a with population of	249 shelters open with a population of	26 shelters open with a	8 shelters open with a population of

Preparedness Activity	Hurricane Harvey in Texas as of August 25, 2017	Hurricane Irma in Florida as of September 9, 2017	Hurricane Irma in Puerto Rico and the U.S. Virgin Islands as of September 6, 2017	Hurricane Maria in Puerto Rico and the U.S. Virgin Islands as of September 19, 2017
	91	48,739	population of 388	306
Number of Emergency Support Functions Activated[b]	13 of 14	13 of 14	12 of 14	13 of 14

Source: GAO Analysis of Federal Emergency Management Agency's Senior Leadership Briefing and Recovery Snapshots for the 2017 disasters. I GAO-18-472

Notes:
[a]Incident Management Assistance Teams are FEMA staff in areas such as operations, logistics, planning, and finance and administration that rapidly deploy to an incident or incident-threatened venue to provide leadership in the identification and provision of federal assistance, and coordinate and integrate inter-jurisdictional response in support of an affected state, tribe, or territory.

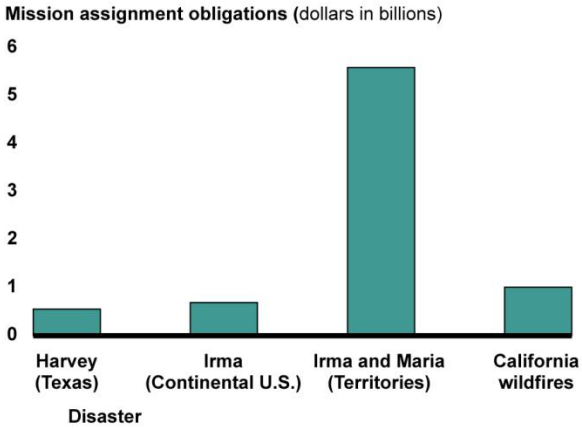
[b]Emergency Support Functions serve as the federal government's primary coordinating structure for building, sustaining, and delivering response capabilities.

Federal Response Activity for Each Disaster

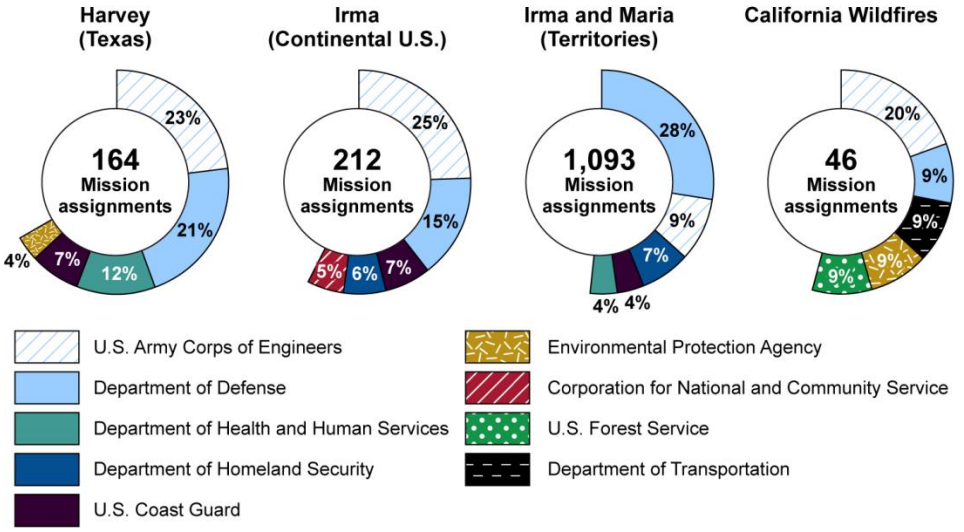
There were 1,515 mission assignments—that is, an order from FEMA directing another federal agency to complete a specific task—for the 2017 hurricanes and California wildfires, and total obligations for these mission assignments was more than $7.8 billion, as of January 2018. Moreover, while all four incidents were declared major disasters—requiring Emergency Support Function (ESF) support that serve as the federal government's primary coordinating structure for building, sustaining, and delivering response capabilities, through mission assignments—the unique scale of the response activity in the territories is evident, as shown in figure 17.

Figure 17: Federal Government Response Activity and Obligations through Mission Assignments for Each 2017 Disaster, as of January 2018

Obligations for mission assignments for each disaster



Total number and top five agencies executing mission assignments



Source: GAO analysis of data from the Federal Emergency Management Agency's Web-based Emergency Operations Center (WebEOC). | GAO-18-472

Note: Mission assignment—that is, an order from the Federal Emergency Management Agency (FEMA) directing another federal agency to complete a specific task— totals and percentages for each agency reflect data entered into FEMA's Web-based Emergency Operations Center (WebEOC) system of approved resource requests by response officials. Data presented reflect totals and percentages where data are available. This does not include 1,285 request records (out of 3,339 total) for which data are not available to determine whether FEMA sourced the request through a mission assignment or other source, and 74 records for which data are not available to determine which agency FEMA assigned out of the 1,515 mission assignments reviewed.

As of January 2018, the territorial response for hurricanes Irma and Maria alone resulted in more than 1,000 mission assignments and over $5.5 billion in obligations. Dozens of federal agencies provided support to FEMA and the states affected by the four disasters, but for all events, the Department of Defense (DOD) and the U.S. Army Corps of Engineers (USACE) were leading partners executing mission assignments from FEMA to support response activities. When requested, and approved by the Secretary of Defense, DOD provides Defense Support of Civil Authorities during domestic incidents and is therefore considered a support agency to all ESFs. In some cases, DOD received a greater percentage of requests under the ESF than the lead coordinating agencies. For example, in response to hurricanes Irma and Maria in the territories, FEMA assigned DOD 35 requests and USACE one request for ESF 8, for which the Department of Health and Human Services (HHS) is the lead coordinating agency; whereas FEMA assigned HHS 32 requests for ESF 8. According to FEMA Office of Response and Recovery officials, the 2017 disasters challenged FEMA in many ways,

necessitating a larger role for DOD due to its specialized capabilities. Further, the response efforts followed the FEMA Region II Puerto Rico and U.S. Virgin Islands Hurricane Annex planning considerations, which identifies DOD for several mission responsibilities due to the unique considerations of the Islands' location. In addition, DOD was needed for missions deemed "uncommon" such as airfield assessments and opening. For each ESF—there is a lead federal agency designated as the coordinator. The ESF coordinators oversee the preparedness activities for a particular ESF and coordinate with its primary and support agencies. See table 4 for selected examples of ESF delivered in support of all four 2017 disasters.

Table 4a: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #1: Transportation
Coordinator: Department of Transportation

Event	Number of mission assignments	Overview
Harvey	3	In response to Hurricane Harvey in Texas, the Department of Transportation and the Federal Transit Administration received a mission assignment from the Federal Emergency Management Agency (FEMA) deploying personnel to assist with assessing the damages to public transit systems and associated costs.
Irma in the Mainland	4	In response to Hurricane Harvey in Texas, the Department of Transportation and the Federal Transit Administration received a mission assignment from the Federal Emergency Management Agency (FEMA) deploying personnel to assist with assessing the damages to public transit systems and associated costs.
Irma and Maria in the territories	51	In response to Hurricane Harvey in Texas, the Department of Transportation and the Federal Transit Administration received a mission assignment from the Federal Emergency Management Agency (FEMA) deploying personnel to assist with assessing the damages to public transit systems and associated costs.
California Wildfires	4	In response to Hurricane Harvey in Texas, the Department of Transportation and the Federal Transit Administration received a mission assignment from the Federal Emergency Management Agency (FEMA) deploying personnel to assist with assessing the damages to public transit systems and associated costs.

Table 4b: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #2: Communications
Coordinator: DHS /National Communications System

Event	Number of mission assignments	Overview

ESF #2: Communications Coordinator: DHS /National Communications System		
Event	**Number of mission assignments**	**Overview**
Harvey	2	In response to Hurricane Irma in Florida, the General Services Administration received a mission assignment from FEMA deploying personnel to assist with disaster response operations at various locations.
Irma in the Mainland	2	In response to Hurricane Irma in Florida, the General Services Administration received a mission assignment from FEMA deploying personnel to assist with disaster response operations at various locations.
Irma and Maria in the territories	14	In response to Hurricane Irma in Florida, the General Services Administration received a mission assignment from FEMA deploying personnel to assist with disaster response operations at various locations.
California Wildfires	2	In response to Hurricane Irma in Florida, the General Services Administration received a mission assignment from FEMA deploying personnel to assist with disaster response operations at various locations.

Table 4c: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #3: Public Works and Engineering Coordinator: U.S. Army Corps of Engineers		
Event	**Number of mission assignments**	**Overview**
Harvey	35	In response to the hurricanes in the U.S. Virgin Islands, the U. S. Army Corps of Engineers received a mission assignment from FEMA to provide temporary roofing for the territory in support of response operations. This included deploying the temporary roofing team and implementing contracting processes to provide temporary support.
Irma in the Mainland	44	In response to the hurricanes in the U.S. Virgin Islands, the U. S. Army Corps of Engineers received a mission assignment from FEMA to provide temporary roofing for the territory in support of response operations. This included deploying the temporary roofing team and implementing contracting processes to provide temporary support.
Irma and Maria in the territories	96	In response to the hurricanes in the U.S. Virgin Islands, the U. S. Army Corps of Engineers received a mission assignment from FEMA to provide temporary roofing for the territory in support of response operations. This included deploying the temporary roofing team and implementing contracting processes to provide temporary support.

ESF #3: Public Works and Engineering Coordinator: U.S. Army Corps of Engineers		
Event	**Number of mission assignments**	**Overview**
California Wildfires	8	In response to the hurricanes in the U.S. Virgin Islands, the U. S. Army Corps of Engineers received a mission assignment from FEMA to provide temporary roofing for the territory in support of response operations. This included deploying the temporary roofing team and implementing contracting processes to provide temporary support.

Table 4d: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #4: Firefighting Coordinator: U.S. Forest Service		
Event	**Number of mission assignments**	**Overview**
Harvey	4	In response to the California wildfires, the U.S. Forest Service and the Department of Interior received a mission assignment from FEMA to provide fire assistance and suppression implementation planning.
Irma in the Mainland	3	In response to the California wildfires, the U.S. Forest Service and the Department of Interior received a mission assignment from FEMA to provide fire assistance and suppression implementation planning.
Irma and Maria in the territories	31	In response to the California wildfires, the U.S. Forest Service and the Department of Interior received a mission assignment from FEMA to provide fire assistance and suppression implementation planning.
California Wildfires	5	In response to the California wildfires, the U.S. Forest Service and the Department of Interior received a mission assignment from FEMA to provide fire assistance and suppression implementation planning.

Table 4e: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #5: Information and Planning Coordinator: FEMA		
Event	**Number of mission assignments**	**Overview**

ESF #5: Information and Planning Coordinator: FEMA		
Event	**Number of mission assignments**	**Overview**
Harvey	4	In response to the flooding related to Hurricane Harvey, the U.S. Geological Survey received a mission assignment from FEMA to provide advance support, real-time field measurements, and daily reporting of water heights for counties along the Gulf of Mexico coast.
Irma in the Mainland	1	In response to the flooding related to Hurricane Harvey, the U.S. Geological Survey received a mission assignment from FEMA to provide advance support, real-time field measurements, and daily reporting of water heights for counties along the Gulf of Mexico coast.
Irma and Maria in the territories	74	In response to the flooding related to Hurricane Harvey, the U.S. Geological Survey received a mission assignment from FEMA to provide advance support, real-time field measurements, and daily reporting of water heights for counties along the Gulf of Mexico coast.
California Wildfires	1	In response to the flooding related to Hurricane Harvey, the U.S. Geological Survey received a mission assignment from FEMA to provide advance support, real-time field measurements, and daily reporting of water heights for counties along the Gulf of Mexico coast.

Table 4f: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #6: Mass Care, Emergency Assistance, Housing, and Human Services Coordinator: FEMA		
Event	**Number of mission assignments**	**Overview**
Harvey	4	In response to Hurricane Irma in Florida, the Department of Housing and Urban Development received a mission assignment from FEMA to support multiple programs providing shelter to disaster survivors. For example, assessing and coordinating assistance to elderly populations in the Transitional Shelter Assistance Program, coordinating with public housing authorities on timelines for repairs to damaged units; and efforts to ensure Fair Housing Act compliance.

ESF #6: Mass Care, Emergency Assistance, Housing, and Human Services Coordinator: FEMA		
Event	**Number of mission assignments**	**Overview**
Irma in the Mainland	5	In response to Hurricane Irma in Florida, the Department of Housing and Urban Development received a mission assignment from FEMA to support multiple programs providing shelter to disaster survivors. For example, assessing and coordinating assistance to elderly populations in the Transitional Shelter Assistance Program, coordinating with public housing authorities on timelines for repairs to damaged units; and efforts to ensure Fair Housing Act compliance.
Irma and Maria in the territories	20	In response to Hurricane Irma in Florida, the Department of Housing and Urban Development received a mission assignment from FEMA to support multiple programs providing shelter to disaster survivors. For example, assessing and coordinating assistance to elderly populations in the Transitional Shelter Assistance Program, coordinating with public housing authorities on timelines for repairs to damaged units; and efforts to ensure Fair Housing Act compliance.
California Wildfires	0	In response to Hurricane Irma in Florida, the Department of Housing and Urban Development received a mission assignment from FEMA to support multiple programs providing shelter to disaster survivors. For example, assessing and coordinating assistance to elderly populations in the Transitional Shelter Assistance Program, coordinating with public housing authorities on timelines for repairs to damaged units; and efforts to ensure Fair Housing Act compliance.

Table 4g: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #7: Logistics Management Coordinators: General Services Administration and FEMA		
Event	**Number of mission assignments**	**Overview**
Harvey	5	In response to hurricanes Irma and Maria in Puerto Rico, the Defense Logistics Agency received a mission assignment from FEMA to provide 82 million commercial “meals ready to eat” in support of response operations.
Irma in the Mainland	5	In response to hurricanes Irma and Maria in Puerto Rico, the Defense Logistics Agency received a mission assignment from FEMA to provide 82 million commercial “meals ready to eat” in support of response operations.

ESF #7: Logistics Management Coordinators: General Services Administration and FEMA		
Event	**Number of mission assignments**	**Overview**
Irma and Maria in the territories	122	In response to hurricanes Irma and Maria in Puerto Rico, the Defense Logistics Agency received a mission assignment from FEMA to provide 82 million commercial "meals ready to eat" in support of response operations.
California Wildfires	3	In response to hurricanes Irma and Maria in Puerto Rico, the Defense Logistics Agency received a mission assignment from FEMA to provide 82 million commercial "meals ready to eat" in support of response operations.

Table 4h: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #8: Public Health and Medical Services Coordinator: Department of Health and Human Services		
Event	**Number of mission assignments**	**Overview**
Harvey	18	In response to damages from Hurricane Maria on the island of St. Croix, in the U.S. Virgin Islands, the DOD received a mission assignment from FEMA to provide deployable temporary medical facilities to the island.
Irma in the Mainland	7	In response to damages from Hurricane Maria on the island of St. Croix, in the U.S. Virgin Islands, the DOD received a mission assignment from FEMA to provide deployable temporary medical facilities to the island.
Irma and Maria in the territories	70	In response to damages from Hurricane Maria on the island of St. Croix, in the U.S. Virgin Islands, the DOD received a mission assignment from FEMA to provide deployable temporary medical facilities to the island.
California Wildfires	2	In response to damages from Hurricane Maria on the island of St. Croix, in the U.S. Virgin Islands, the DOD received a mission assignment from FEMA to provide deployable temporary medical facilities to the island.

Table 4i: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #9: Search and Rescue Coordinator: FEMA		
Event	**Number of mission assignments**	**Overview**

ESF #9: Search and Rescue Coordinator: FEMA		
Event	**Number of mission assignments**	**Overview**
Harvey	13	In response to the historic flooding caused by Hurricane Harvey in Texas, multiple agencies—including U.S. Customs and Border Protection, U.S. Coast Guard, and the Department of Fish and Wildlife—received mission assignments from FEMA to provide boating equipment to move up to 20,000 survivors.
Irma in the Mainland	5	In response to the historic flooding caused by Hurricane Harvey in Texas, multiple agencies—including U.S. Customs and Border Protection, U.S. Coast Guard, and the Department of Fish and Wildlife—received mission assignments from FEMA to provide boating equipment to move up to 20,000 survivors.
Irma and Maria in the territories	15	In response to the historic flooding caused by Hurricane Harvey in Texas, multiple agencies—including U.S. Customs and Border Protection, U.S. Coast Guard, and the Department of Fish and Wildlife—received mission assignments from FEMA to provide boating equipment to move up to 20,000 survivors.
California Wildfires	1	In response to the historic flooding caused by Hurricane Harvey in Texas, multiple agencies—including U.S. Customs and Border Protection, U.S. Coast Guard, and the Department of Fish and Wildlife—received mission assignments from FEMA to provide boating equipment to move up to 20,000 survivors.

Table 4j: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #10: Oil and Hazardous Materials Coordinator: Environmental Protection Agency		
Event	**Number of mission assignments**	**Overview**
Harvey	7	In response to Hurricane Irma in Florida, the Environmental Protection Agency received a mission assignment from FEMA to support the assessment and response operations to actual or threatened hazardous substances and oil releases to remove the threat of danger or contamination to the public.
Irma in the Mainland	14	In response to Hurricane Irma in Florida, the Environmental Protection Agency received a mission assignment from FEMA to support the assessment and response operations to actual or threatened hazardous substances and oil releases to remove the threat of danger or contamination to the public.

ESF #10: Oil and Hazardous Materials Coordinator: Environmental Protection Agency		
Event	**Number of mission assignments**	**Overview**
Irma and Maria in the territories	27	In response to Hurricane Irma in Florida, the Environmental Protection Agency received a mission assignment from FEMA to support the assessment and response operations to actual or threatened hazardous substances and oil releases to remove the threat of danger or contamination to the public.
California Wildfires	4	In response to Hurricane Irma in Florida, the Environmental Protection Agency received a mission assignment from FEMA to support the assessment and response operations to actual or threatened hazardous substances and oil releases to remove the threat of danger or contamination to the public.

Table 4k: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #11: Agricultural and Natural Resources Coordinator: Department of Agriculture		
Event	**Number of mission assignments**	**Overview**
Harvey	2	In response to hurricanes Irma and Maria, the U.S. Department of Agriculture received a mission assignment from FEMA to provide personnel with technical expertise in responding to animal and agricultural health issues, agricultural emergency management, and nutrition assistance in support of response operations in Puerto Rico.
Irma in the Mainland	4	In response to hurricanes Irma and Maria, the U.S. Department of Agriculture received a mission assignment from FEMA to provide personnel with technical expertise in responding to animal and agricultural health issues, agricultural emergency management, and nutrition assistance in support of response operations in Puerto Rico.
Irma and Maria in the territories	15	In response to hurricanes Irma and Maria, the U.S. Department of Agriculture received a mission assignment from FEMA to provide personnel with technical expertise in responding to animal and agricultural health issues, agricultural emergency management, and nutrition assistance in support of response operations in Puerto Rico.

ESF #11: Agricultural and Natural Resources Coordinator: Department of Agriculture		
Event	**Number of mission assignments**	**Overview**
California Wildfires	3	In response to hurricanes Irma and Maria, the U.S. Department of Agriculture received a mission assignment from FEMA to provide personnel with technical expertise in responding to animal and agricultural health issues, agricultural emergency management, and nutrition assistance in support of response operations in Puerto Rico.

Table 4l: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #12: Energy Coordinator: Department of Energy		
Event	**Number of mission assignments**	**Overview**
Harvey	1	The U.S. Department of Energy received a mission assignment from FEMA to provide subject matter experts in electrical distribution, transmission, generation, energy efficiency, renewable energy and related topics to advise the U.S. Army Corps of Engineers on the assessment, planning and reconstruction of the electrical grid in Puerto Rico following Hurricane Maria.
Irma in the Mainland	3	The U.S. Department of Energy received a mission assignment from FEMA to provide subject matter experts in electrical distribution, transmission, generation, energy efficiency, renewable energy and related topics to advise the U.S. Army Corps of Engineers on the assessment, planning and reconstruction of the electrical grid in Puerto Rico following Hurricane Maria.
Irma and Maria in the territories	32	The U.S. Department of Energy received a mission assignment from FEMA to provide subject matter experts in electrical distribution, transmission, generation, energy efficiency, renewable energy and related topics to advise the U.S. Army Corps of Engineers on the assessment, planning and reconstruction of the electrical grid in Puerto Rico following Hurricane Maria.
California Wildfires	3	The U.S. Department of Energy received a mission assignment from FEMA to provide subject matter experts in electrical distribution, transmission, generation, energy efficiency, renewable energy and related topics to advise the U.S. Army Corps of Engineers on the assessment, planning and reconstruction of the electrical grid in Puerto Rico following Hurricane Maria.

Table 4m: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #13: Public Safety and Security Coordinator: Department of Justice		
Event	**Number of mission assignments**	**Overview**
Harvey	7	The Federal Protective Services received a mission assignment from FEMA to provide security guard service at FEMA facilities in Southern California, following the 2017 wildfires.
Irma	3	The Federal Protective Services received a mission assignment from FEMA to provide security guard service at FEMA facilities in Southern California, following the 2017 wildfires
Maria	39	The Federal Protective Services received a mission assignment from FEMA to provide security guard service at FEMA facilities in Southern California, following the 2017 wildfires
Wildfires	4	The Federal Protective Services received a mission assignment from FEMA to provide security guard service at FEMA facilities in Southern California, following the 2017 wildfires

Table 4n: Number of Mission Assignments Received By Emergency Support Function (ESF) Agencies in Response to the 2017 Disasters and Selected Examples of Support, as of January 29, 2018

ESF #15: External Affairs Coordinator: DHS		
Event	**Number of mission assignments**	**Overview**
Harvey	0	DOD received a mission assignment from FEMA to provide support to distribute emergency messages in support of Hurricane Irma response operations in the U.S. Virgin Islands.
Irma	0	DOD received a mission assignment from FEMA to provide support to distribute emergency messages in support of Hurricane Irma response operations in the U.S. Virgin Islands.
Maria	49	DOD received a mission assignment from FEMA to provide support to distribute emergency messages in support of Hurricane Irma response operations in the U.S. Virgin Islands.
Wildfires	0	DOD received a mission assignment from FEMA to provide support to distribute emergency messages in support of Hurricane Irma response operations in the U.S. Virgin Islands.

Source: FEMA. I GAO-18-472

Note: Mission assignment data for each ESF and disaster reflect data entered into FEMA's Web-based Emergency Operations Center (WebEOC) system of approved resource requests by response officials. This does not include 591 records for which data are not available to determine which ESF response officials identified for the mission assignment. ESF data for Maria includes obligations that stemmed from Hurricane Irma's impact on the U.S. Virgin Islands and Puerto Rico. ESF 14 is no longer in use as of 2011. When requested, and approved by the Secretary of Defense, DOD provides Defense Support of Civil Authorities during domestic incidents and is therefore considered a support agency to all ESFs. In some cases, DOD received a greater percentage of requests under the ESF than the lead coordinating agencies. According to FEMA Office of Response and Recovery officials, the 2017 disasters challenged FEMA in many ways, necessitating a larger role for DOD due to its specialized capabilities. Further, the response efforts followed the FEMA Region II Puerto Rico and U.S. Virgin Islands Hurricane Annex planning considerations, which identifies DOD for several mission responsibilities due to the unique considerations of the Islands' location. In addition, DOD was needed for missions deemed "uncommon" such as airfield assessments and opening.

Contact

View GAO-18-472. For more information, contact Chris Currie at (404) 679-1875 or curriec@gao.gov.

Prior Relevant GAO Reports on Federal Coordination in Disaster Response

Emergency Preparedness: Opportunities Exist to Strengthen Interagency Assessments and Accountability for Closing Capability Gaps. GAO-15-20. Washington, D.C.: Published December 4, 2014 and reissued December 9, 2015.

Federal Emergency Management Agency: Progress and Continuing Challenges in National Preparedness Efforts. GAO-16-560T. Washington, D.C.: April 12, 2016.

Disaster Response: FEMA Has Made Progress Implementing Key Programs, but Opportunities for Improvement Exist. GAO-16-87. Washington, D.C.: February 5, 2016.

Appendix IV: Federal Contracting for the 2017 Hurricanes

Overview

Historically, federal contracts comprise a large share of federal expenditures for hurricane response and recovery efforts. It can take years to fully account for federal contract obligations resulting from a hurricane. For example, federal agencies are still making contract obligations as part of the recovery efforts as far back as hurricanes Sandy and Katrina, which occurred in 2012 and 2005, respectively. According to early estimates, the 2017 hurricanes are among the most expensive hurricanes in terms of federal contract obligations since 2005, when agencies began tracking information by hurricane.

Advance Contracting

To facilitate a faster response, FEMA and USACE identify goods and services that are typically needed for disaster response and establish contracts for them—known as advance contracts—prior to the disasters. As of January 31, 2018, FEMA reported that it had obligated over $2.4 billion through advance contracts for products and services such as prefabricated buildings, food, and inspection services, in response to hurricanes Harvey, Irma, and Maria. As of the same date, USACE reported that it obligated about $555 million through its advance contracts for services such as temporary power, temporary roofing, and debris removal.

Competition

Across all three hurricanes, we found that as of January 31, 2018, the overall competition rate—the percentage of total obligations reported under

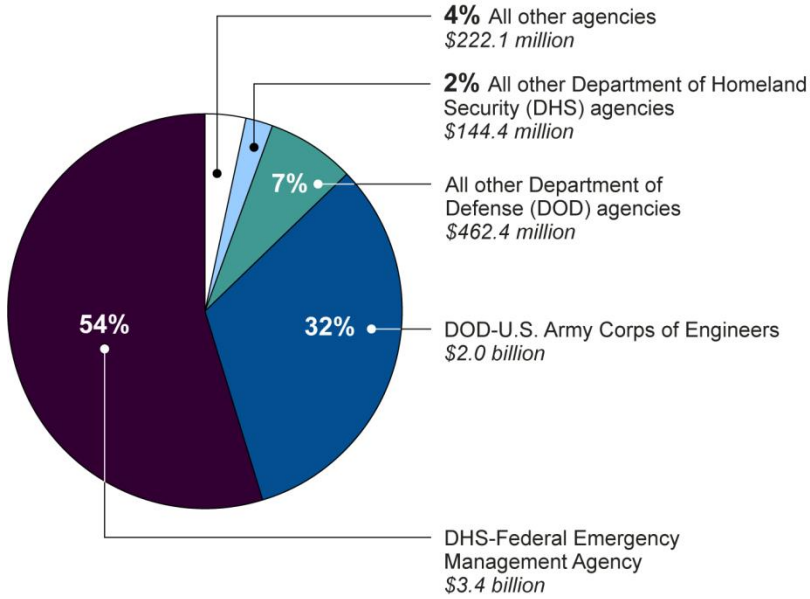
Total Contract Obligations for Hurricanes Harvey, Irma, and Maria

A number of federal departments procured goods and services in response to the three 2017 hurricanes. As of January 31, 2018, the Department of Homeland Security (DHS), which includes the Federal Emergency Management Agency (FEMA), and the Department of Defense (DOD), which include the U.S. Army Corps of Engineers (USACE), accounted for approximately 96 percent of total contract obligations[3] across 21 federal departments.[4] As of January 31, 2018, federal departments had obligated over $6.2 billion for contracts in support of the response and recovery efforts for hurricanes Harvey, Irma, and Maria. Figure 18 provides details on agencies' contract obligations in support of the three hurricanes.

Figure 18: Contract Obligations in Support of Hurricanes Harvey, Irma, and Maria Response Efforts, by Agency, through January 31, 2018

[3]For the purposes of this appendix, contract obligations include obligations against what the General Services Administration's Federal Procurement Data System-Next Generation (FPDS-NG) categorizes as definitive vehicles (definitive contracts and purchase orders that have a defined scope of work that do not allow for individual orders under them), and against what FPDS-NG categorizes as indefinite delivery vehicles (orders under the Federal Supply Schedule, orders/calls under blanket purchase agreements, orders under basic ordering agreements, orders under government-wide acquisition contracts, and orders under other indefinite delivery vehicles, such as indefinite delivery, indefinite quantity contracts).

[4]In addition to DOD and DHS, the following departments had contract obligations in support of hurricanes Harvey, Irma, and Maria response efforts: the departments of Agriculture, Commerce, Energy, Health and Human Services, Housing and Urban Development, Interior, Justice, State, Transportation, Treasury, and Veterans Affairs; the Agency for International Development; the Broadcasting Board of Governors; the Corporation for National and Community Service; the Environmental Protection Agency; the General Services Administration; the National Aeronautics and Space Administration; the Social Security Administration; and the Small Business Administration.



Source: GAO analysis of Federal Procurement Data System-Next Generation data. | GAO-18-472

Observations on Contract Obligations by Hurricane

Each of the three 2017 hurricanes hit different geographic locations and caused varying degrees of destruction, from flooding and wind damage to massive power outages. As such, contract obligations varied by hurricane in terms of amount and whether they were for products or services, as shown in table 5.

Table 5: Contracting Information by 2017 Hurricane through January 31, 2018

Category	Harvey	Irma	Maria
Total Contract Obligations (Dollars in millions)	1,364	1,026	3,826
Percent obligated by Federal Emergency Management Agency (%)	79	71	41
Percent obligated by U.S. Army Corps of Engineers(%)	4	3	50
Contract obligations for products (Dollars in millions)	649	213	1,259
Contract obligations for services (Dollars in millions)	715	813	2,567
Competition Rate (%)	82	7%	81

Source: GAO analysis of Federal Procurement Data System-Next Generation data. I GAO-18-472

Note: For the purposes of this appendix, competition rate is the percentage of total obligations associated with contracts awarded competitively. We calculated competition rates as the percentage of obligations on competitive contracts over all obligations on contracts annually.

Numbers may not add due to rounding. Examples of products procured through contracts include food, water, and shelter; while examples of services include power restoration and the repair or alteration of damaged buildings.

Competitive contracts included contracts and orders coded in the Federal Procurement Data System-Next Generation (FPDS-NG) as “full and open competition,” “full and open after exclusion of sources,” and “competed under simplified acquisition procedures,” as well as orders coded as “subject to fair opportunity” and as “fair opportunity given,” and “competitive set aside.” Noncompetitive contracts included contracts and orders coded in FPDS-NG as “not competed,” “not available for competition,” and “not competed under simplified acquisition procedures,” as well as orders coded as an exception to “subject to fair opportunity,” including “urgency,” “only one source,” “minimum guarantee,” “follow-on action following competitive initial action,” “other statutory authority,” and “sole source.”

Approximately $3 billion of the $6.2 billion in contracts obligated for the three hurricanes as of January 31, 2018, was obligated through advance contracts. Table 6 provides additional details on FEMA and USACE obligations on advance contracts.

Table 6: Information on Advance Contracting by 2017 Hurricane, through January 31, 2018

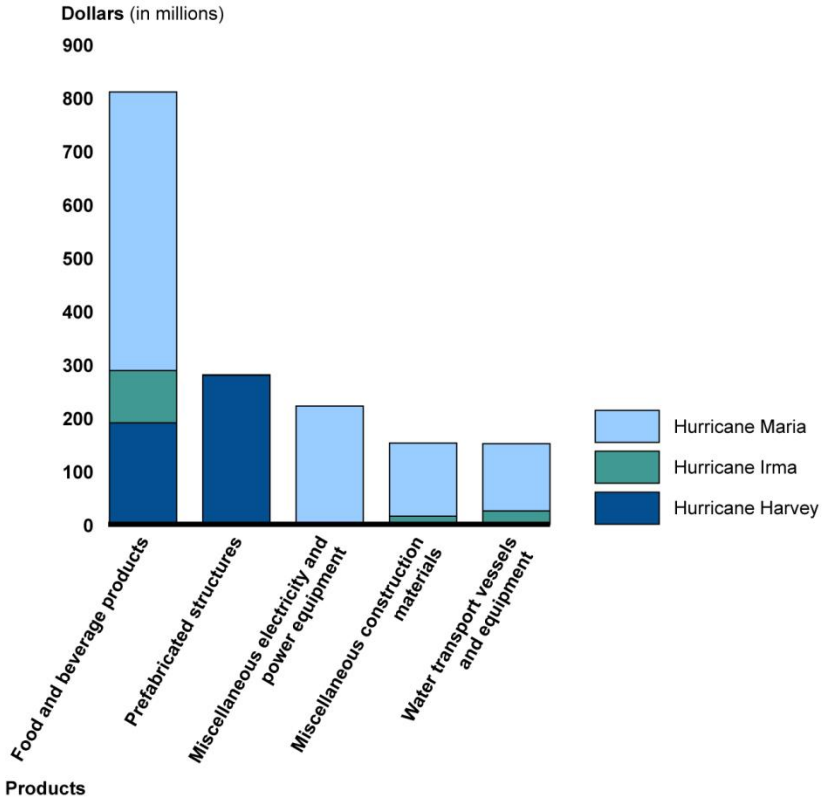
Category	Harvey	Irma	Maria
Obligations on Advance Contracts (Dollars in millions)	948	566	1,493
Federal Emergency Management Agency (Dollars in millions)	940	536	975
U.S. Army Corps of Engineers (Dollars in millions)	7	30	518

Source: GAO analysis of Department of Homeland Security and Department of Defense data. | GAO-18-472

Note: Numbers may not add due to rounding. Advance contracts are contracts identified and established prior to a disaster, for goods and services that are typically needed during a disaster response.

Federal agencies procured a variety of products and services through contracts in response to the hurricanes, obligating more than $2.1 billion for products and about $4.1 billion for services. Figure 19 identifies the top five product groups in terms of contract obligations, and the proportion of obligations for each hurricane. These contracts include life-sustaining products such as food, water, and power for survivors.

Figure 19: Top Five Product Groups in Terms of Contract Obligations through January 31, 2018, and Proportion of Obligations by Hurricane

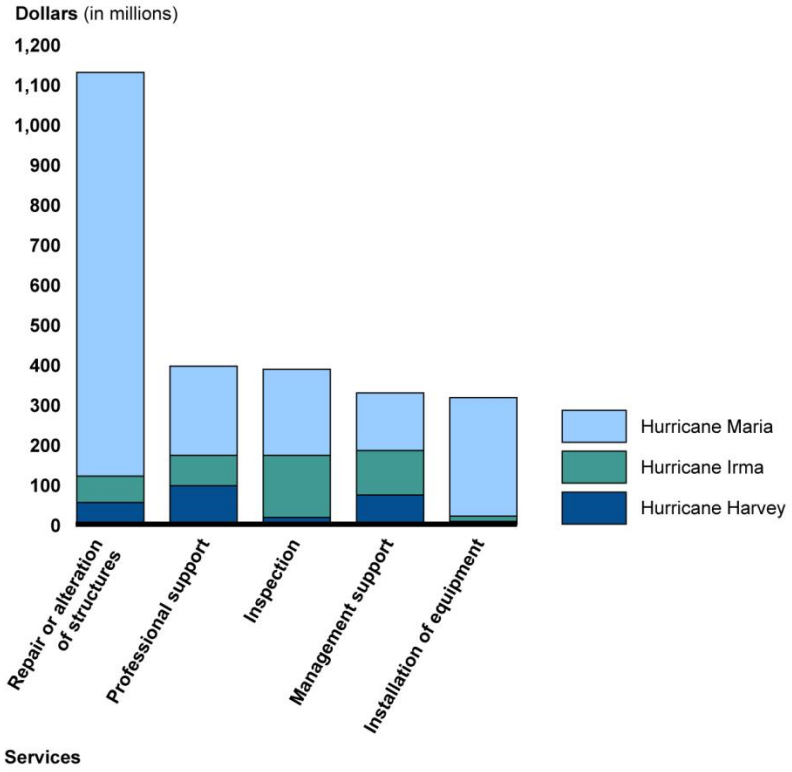


Source: GAO analysis of Federal Procurement Data System-Next Generation data. | GAO-18-472

Figure 20 identifies the top five service groups in terms of contract obligations, and the proportion of obligations for each hurricane. For example, these contracts include inspection services, such as housing

inspections, and professional support services, such as support for FEMA's housing and feeding missions in the affected areas.

Figure 20: Top Five Service Groups in Terms of Contract Obligations through January 31, 2018, and Proportion of Obligations by Hurricane



Source: GAO analysis of Federal Procurement Data System-Next Generation data. | GAO-18-472

Additional details on disaster contracting and on obligations for products and services procured for the three hurricanes can be found in our prior work on 2017 disaster contracting.

Contact

View GAO-18-472. For more information, contact Marie Mak at (202) 512-4841 or makm@gao.gov.

Prior Relevant GAO Reports on Disaster Contracting

2017 Disaster Contracting: Observations on Federal Contracting for Response and Recovery Efforts. GAO-18-335. Washington, D.C.: February 28, 2018.

Disaster Contracting: FEMA Needs to Cohesively Manage Its Workforce and Fully Address Post-Katrina Reforms. GAO-15-783. Washington, D.C.: September 29, 2015.

Appendix V: FEMA Disaster Workforce Capacity

Overview

Under the Stafford Act, FEMA has the authority to augment its permanent full-time staff with temporary personnel when needed. Additionally, during a disaster response, FEMA deploys non-FEMA employees from two workforce components—the Surge Capacity Force and the FEMA Corps. FEMA also hires locally and employs other personnel, such as contractors, to provide a variety of products and services, such as debris removal.

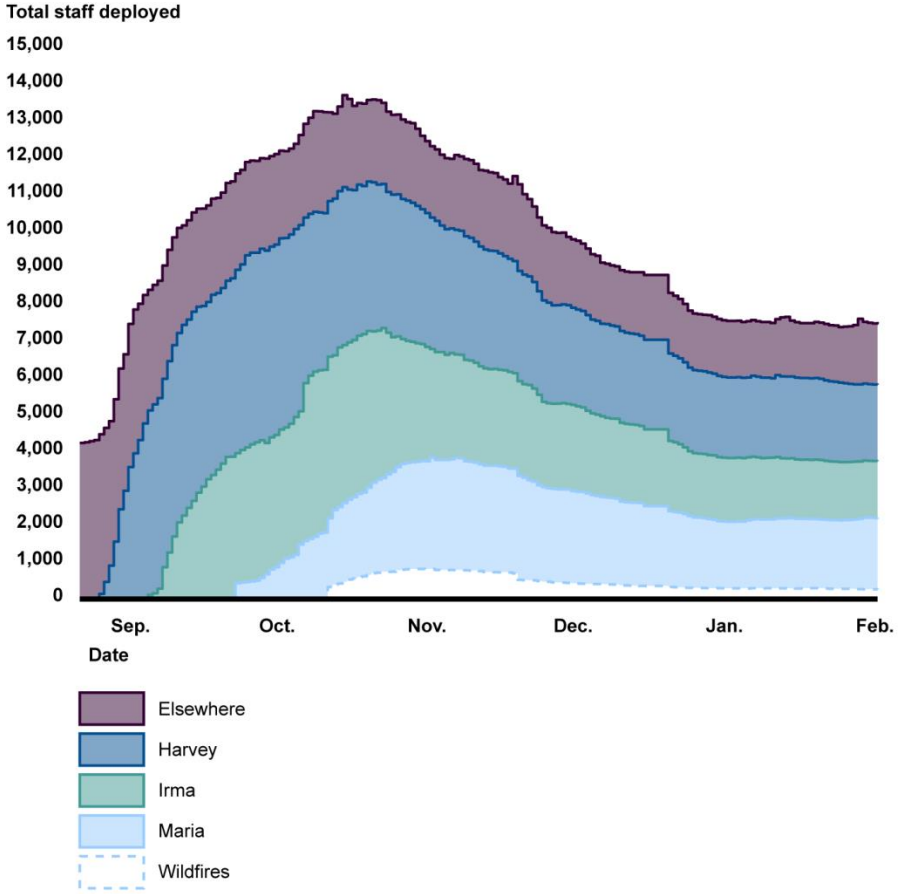
According to FEMA's 2014-2018 Strategic Plan, the agency's goal is to develop and manage its disaster workforce to respond to two concurrent catastrophic disasters. Although the federal disaster workforce FEMA can deploy has expanded in recent years, to over 24,000 as of August 20, 2017, the agency faced challenges training employees and maintaining staffing levels across four concurrent disasters.

In September 2017, in response to staffing shortfalls, FEMA expanded its Surge Capacity Force program to include not only volunteers from the Department of Homeland Security (DHS), but all federal employees. As of January 2018, the program had enrolled over 12,000 employees, compared to 4,033 in 2015.

FEMA Faced Challenges Responding to Sequential Disasters in Late 2017

The Federal Emergency Management Agency (FEMA) experienced challenges in recruiting and maintaining its workforce to support the hurricanes and wildfires response in 2017. Prior to landfall of Hurricane Harvey in August 2017, FEMA had already deployed staff to other long-term recovery operations. In addition, based on its internal workforce analyses, FEMA faced a staff shortage of 37 percent as of September 1, 2017. Figure 21 shows the deployment of the federal disaster personnel across the 2017 disasters.

Figure 21: Federal Disaster Workforce Deployed In Response to the 2017 Disasters from September 2017 through February 2018



Source: GAO analysis of Department of Homeland Security data. | GAO-18-472

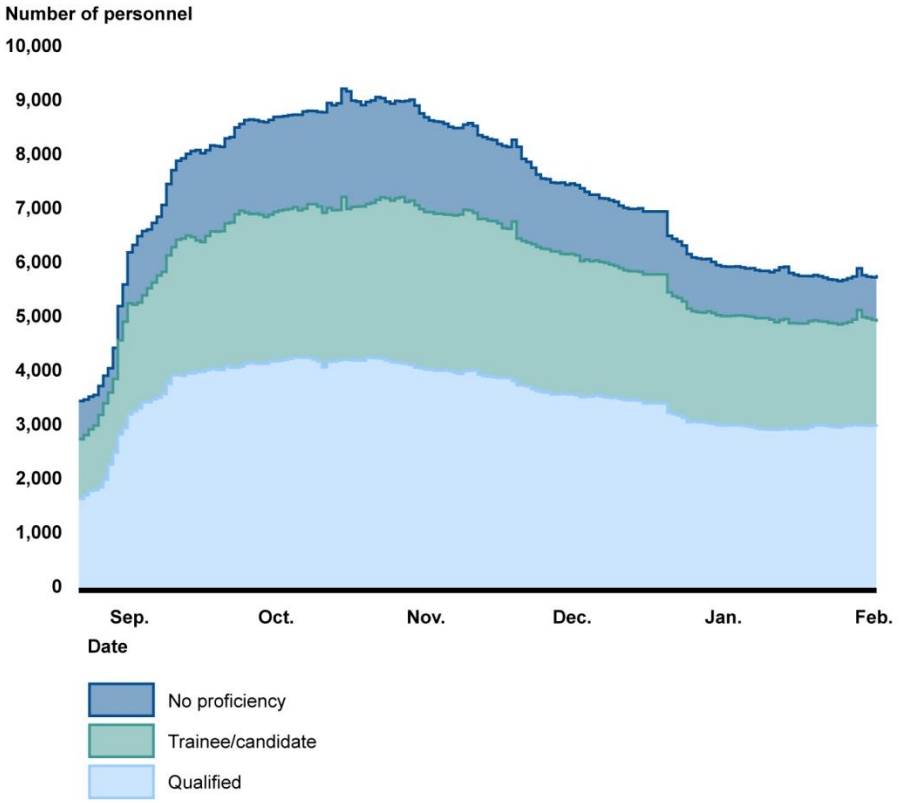
Note: Data include Federal Emergency Management Agency (FEMA) workforce and non-FEMA employees that FEMA can deploy during a disaster response such as the Surge Capacity Force, FEMA Corps and contractors. Data do not represent local hires or employee types such as permanent part-time, temporary part-time, and temporary incident employees.

Less than Half of FEMA's Deployed Workforce Held a

Qualified Title During 2017 Disasters

FEMA faced challenges maintaining a "Qualified" workforce—a FEMA Qualification System designation that refers to personnel who, following an evaluation and validation of specific tasks and training requirements, are capable of independently executing their specific roles—across concurrent disasters. As shown in figure 22, at the height of workforce deployments in mid-October 2017, 54 percent of staff were serving in a capacity in which they did not hold the title of "Qualified."

Figure 22: Federal Emergency Management Agency Qualification Levels for Deployed Staff During the 2017 Disaster Response



Source: GAO analysis of Department of Homeland Security data. | GAO-18-472

Note: Data only represent FEMA employees and do not include local hires, FEMA Corps, Surge Capacity Force, contractors or employees from other federal agencies.

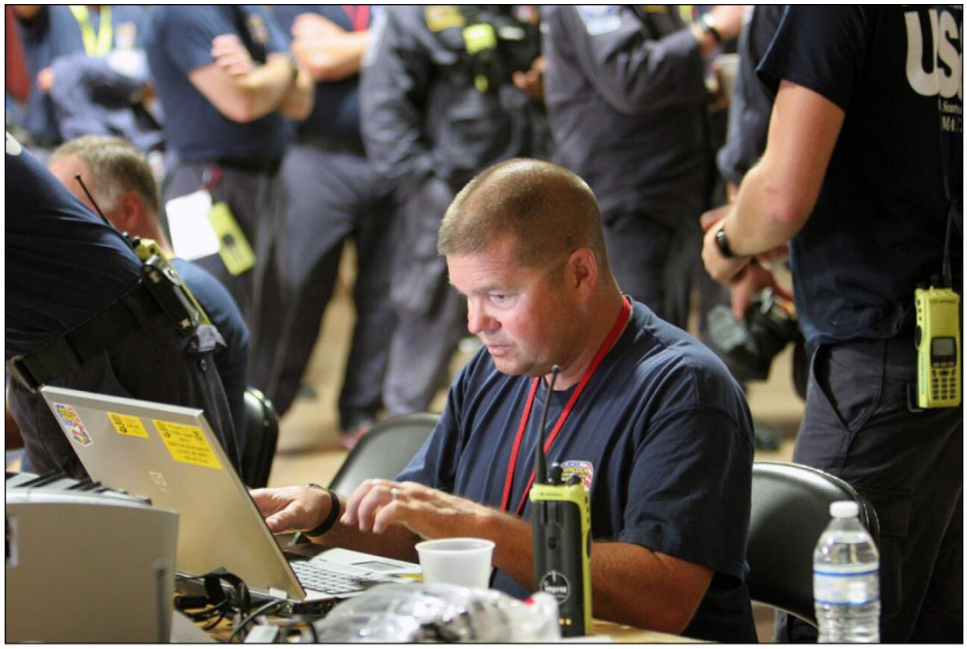
Observations from Affected States and Territories

Challenges Reported by Officials in Responding to Sequence of 2017 Disasters

Local and FEMA officials from Texas and California—the two states that experienced disasters at the beginning and end of the 2017 disasters season—expressed concern over FEMA's workforce capacity in responding to concurrent catastrophic disasters. FEMA and local officials in Texas said that staff were initially deployed when Hurricane Harvey landed, but some staff were re-deployed once hurricanes Irma and Maria hit. Local officials in California described the difficulty in responding to wildfires with a shortage of staff, while FEMA officials noted the exhaustion of staff re-deployed to California after returning from deployments in the areas impacted by the hurricanes—often with only a 1- or 2-day break in between. As a result, many staff were not in a state to best serve mission needs according to officials. An

employee serving at the start of the 2017 hurricane season is shown in figure 23.

Figure 23: Federal Emergency Management Agency (FEMA) Employee in Texas



Source: FEMA. | GAO-18-472

Mixed Results in Matching Surge Capacity Force Skills to Job Assignments

The Surge Capacity Force comprises DHS and other federal employees who volunteer to deploy in the event of a disaster for a maximum of 45 days of service.[5]

- Available staff as of August 2017: 6,537
- Peak deployed during 2017 disasters: 3,102

Hurricane Harvey (Texas): FEMA officials reported successes with utilizing the expertise of the Surge Capacity Force to match disaster needs by pre-collecting data on skill sets.

Hurricane Irma (Florida): FEMA officials noted the value of the Surge Capacity Force, but cited challenges with understaffing and identifying tasks that best match their skill sets (e.g. a NASA engineer could be better used to help with planning rather than loading copy paper into printers). Figure 24 shows a volunteer in Florida.

Hurricane Maria and Hurricane Irma (Puerto Rico): FEMA officials noted the success of the Surge Capacity Force, but volunteers cited concerns in matching their skill sets to disaster recovery tasks in Puerto Rico as well as disconnects between information given during training and the job requirements.

Hurricane Maria and Hurricane Irma (U.S. Virgin Islands): FEMA officials in the U.S. Virgin Islands noted the positive attitude and integration of members of the Surge Capacity Force.

California Wildfires: FEMA officials said that although the Surge Capacity Force staff were well trained in individual assistance, they were not always capable of leading teams in austere environments.

[5]On October 6, 2017 the Acting Secretary of DHS extended the deployment cap for voluntary extensions for 45 additional days and encouraged volunteers to speak with their supervisors regarding deployment durations.

Figure 24: Federal Emergency Management Agency (FEMA) Surge Capacity Force Volunteer in Florida

Source: FEMA. | GAO-18-472

Concerns Raised About Reservists without Qualified Titles and Who Refused to Deploy

Reservists are FEMA first responders who are available on an on-call basis during an emergency or disaster. They must be available to deploy within 24-48 hours, and will be deployed for 30 or more days.

- Available reservists as of August 2017: 6,708
- Peak deployed during 2017 disasters: 4,645

As of May 2017, 46 percent of all FEMA reservists did not hold the title of "Qualified" for their job function and from August to November 2017 over 15 percent of eligible reservists refused at least one deployment, according to FEMA data, for medical reasons or other concerns.

Hurricane Harvey (Texas): Officials from the Joint Field Office—a multiagency coordination center established near a disaster site for coordinating major disaster response and recovery efforts—voiced concern over the deployment of unqualified reservists because training was outdated or unavailable prior to deployment.

Hurricane Irma (Florida): The FEMA Federal Coordinating Officer in Florida—who coordinates federal activities in support of the state—and Florida Division of Emergency Management officials said morale for some reservists (who made up one-third of staff in Florida during peak deployment) was low due to lengthy deployments, pay cuts, and a shortage of role models. State officials also expressed concern over the number of refusals from deployable reservists who cited medical and scheduling concerns.

Hurricane Maria and Hurricane Irma (U.S. Virgin Islands): The Federal Coordinating Officer in the U.S. Virgin Islands said many reservists were not physically fit to handle conditions on the island and a fitness test should have been required before they were eligible to deploy.

Concerns with Turnover of Some IMAT Staff and Need for Additional Training

Hurricane Harvey (Texas): FEMA officials expressed concerns with the high turnover rate of Incident Management Assistance Team (IMAT) staff—the first FEMA emergency management staff deployed to a major disaster site—which they attributed to low pay and the challenging nature of the work.

Hurricane Maria and Hurricane Irma (U.S. Virgin Islands): FEMA officials noted that attrition is high among IMAT staff and the pay does not incentivize staff to stay. Officials also stressed the need for additional training for Region II IMAT employees alongside national IMAT teams.

Contact

View GAO-18-472. For more information, contact Chris Currie at (404) 679-1875 or curriec@gao.gov.

Prior Relevant GAO Reports on FEMA's Workforce

Disaster Contracting: FEMA Needs to Cohesively Manage Its Workforce and Fully Address Post-Katrina Reforms. GAO-15-783. Washington, D.C.: September 29, 2015.

Federal Emergency Management Agency: Additional Planning and Data Collection Could Help Improve Workforce Management Efforts. GAO-15-437. Washington, D.C.: July 9, 2015.

Emergency Preparedness: Opportunities Exist to Strengthen Interagency Assessments and Accountability for Closing Capability Gaps. GAO-15-20. Washington, D.C.: December 4, 2014.

FEMA Reservists: Training Could Benefit from Examination of Practices at Other Agencies. GAO-13-250R. Washington, D.C.: March 22, 2013.

Disaster Assistance Workforce: FEMA Could Enhance Human Capital Management and Training. GAO-12-538. Washington, D.C.: May 25, 2012.

Federal Emergency Management Agency: Workforce Planning and Training Could Be Enhanced by Incorporating Strategic Management Principles. GAO-12-487. Washington, D.C.: April 26, 2012.

Appendix VI: FEMA's Individual Assistance Program

Overview

FEMA's IA Program aims to provide individual applicants resources to help meet their sustenance, shelter, and medical needs in the wake of a disaster. FEMA provides substantial assistance through the Individuals and Households Program (IHP)—one of five support programs under IA. The IHP includes two categories of aid:

- **Housing Assistance** which can include financial or direct assistance for temporary housing, home repairs, replacement of a primary home, and in limited locations, permanent housing construction when needed due to disaster effects.
- **Other Needs Assistance** which can include financial assistance for uninsured or underinsured, disaster-related needs, such as transportation, funeral, medical, and child care assistance. Some types of assistance are dependent on an applicant's ability to secure a Small Business Administration disaster loan.

As part of the IHP, individuals affected by disasters declared in fiscal year 2017 may be eligible for up to $33,300 in assistance. Those affected by disasters declared in fiscal year 2018 may be eligible for up to $34,000 in assistance.

In addition to the IHP, FEMA may provide assistance essential to meet immediate threats to life and property resulting from a major disaster, including emergency shelter.

FEMA Individual Assistance Program Activity to Support State Goals for Housing Recovery

The Federal Emergency Management's (FEMA) Individual Assistance (IA) program provides financial assistance and direct services to eligible individuals and households who have uninsured or underinsured necessary expenses and serious needs. In response to the unprecedented 2017 hurricane season, FEMA officials have collaborated with state, territorial and tribal governments to craft new approaches to delivering housing assistance and leverage the broad scope of available authorities under the Stafford Act to meet local needs for housing recovery. These approaches include both financial and direct housing assistance, such as:

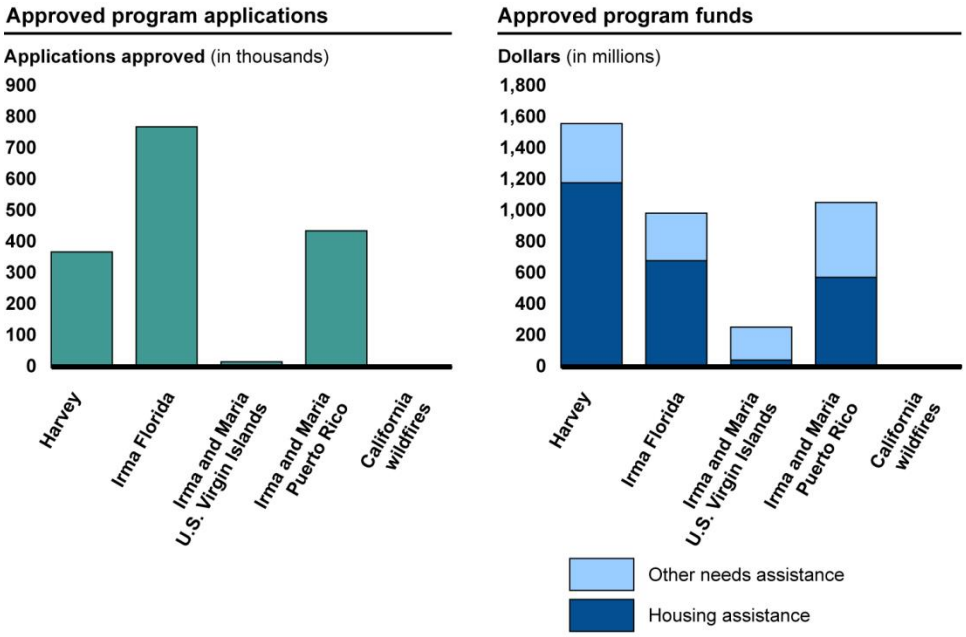
- **Direct Lease:** FEMA provides temporary housing units directly to survivors when rental resources are unavailable. FEMA and the state of Florida are prioritizing use of this approach for housing recovery in the state.
- **Multifamily Lease and Repair:** FEMA repairs existing multi-family housing units, such as apartments, to use as temporary housing for eligible applicants who are unable to use Rental Assistance—a financial grant provided to homeowners and renters whose homes were made uninhabitable or inaccessible by the disaster, to assist with expenses to rent temporary housing—due to a lack of available resources. According to FEMA officials, this approach is among the range of options territorial officials intend to leverage to address local conditions.
- **Manufactured Housing Units and Recreational Vehicles:** These are manufactured homes or other readily fabricated dwellings (e.g., a pre-fabricated dwelling) owned by FEMA and provided to eligible applicants for use as temporary housing. Recreational Vehicles have been approved for use in response to hurricanes Harvey and Irma. This form of assistance is being implemented in Texas and Florida.
- **Permanent Housing Construction:** FEMA may provide financial assistance or direct assistance to individuals and households in insular areas outside the continental United States or in other locations where no alternative housing resources are available and where temporary housing assistance is unavailable, infeasible, or not cost-effective. Under this program, repairs can be made to ensure that a home is habitable, such as repairs to heating, ventilation, and air conditioning systems, walls, floors, and ceilings, but is not intended to restore the home to the pre-disaster condition. According to FEMA officials, this assistance was authorized in Texas, Puerto Rico, and the U.S. Virgin Islands.
- **Sheltering and Temporary Essential Power (STEP)**: According to FEMA guidance, STEP was designed to assist state, territorial, and tribal governments in performing work and services essential to saving lives, protecting public health and safety, and protecting property to enable survivors to shelter at home. This approach is among the options state, territorial, and tribal officials told us that they may leverage to address

local conditions.

- **Transitional Sheltering Assistance (TSA):** FEMA may provide TSA to applicants who are unable to return to their pre-disaster primary residence because their home is either uninhabitable or inaccessible. The goal of TSA is to reduce the number of disaster survivors in congregate shelters by transitioning survivors into short-term accommodations through direct payments to lodging providers, such as hotels. Puerto Rico used this approach despite initial concerns that this would have a negative effect on migration away from the island territory, according to FEMA officials.

As of February 2018, FEMA approved more than 1.6 million applications for IHP, resulting in obligations of over $2.5 billion for Housing Assistance and $1.1 billion for Other Needs Assistance (i.e., financial assistance for uninsured or underinsured, disaster-related needs, such as medical), as shown in figure 25 below. See table 7 for the number of approved applicants for each FEMA housing and sheltering assistance type for the 2017 disasters as of June 2018.

Figure 25: Total Number of Applicants and Funds Awarded through FEMA's Individuals and Households Program by 2017 Hurricane or Wildfire, as of February 28, 2018



Source: Federal Emergency Management Agency's National Emergency Management Information System. | GAO-18-472

Table 7: Number of Individual and Households Program Registrations and Approved Applicants for Each Type of Housing and Sheltering Assistance Provided by Disaster Location, as of June 22, 2018

Disaster	Total Registrations	Multifamily Lease Repair	Manufactured Housing Units and Recreational Vehicles	Permanent Housing Construction Repair Program	Direct Lease	Sheltering and Temporary Essential Power Program	Transitional Sheltering Assistance
Hurricane Harvey in Texas	**895,528**	0	2,848	247	131	15,578	53,894
Hurricane Irma in Florida	**2,644,403**	0	257	0	63	129	26,633
Hurricane Irma and Hurricane Maria in Puerto Rico	**1,138,444**	16	0	33	237	33,016	6,907
Hurricane Irma and Hurricane Maria in U.S. Virgin Islands	**39,415**	0	0	0	61	1,920	0
California wildfires	**25,425**	0	154	0	94	0	618
Total	**4,743,215**	**16**	**3,259**	**280**	**586**	**50,643**	**88,052**

Source: The Federal Emergency Management Agency. I GAO-18-472

Note: Total registrations represent the number of survivors who applied for disaster assistance at each disaster location. However, the number of registrations for the Sheltering and Temporary Essential Power Program may be different because the Sheltering and Temporary Essential Power Program is separate from FEMA's Individuals and Households Program and is not included in the registration process. Disaster survivors interested in the Sheltering and Temporary Essential Power Program must first apply for FEMA's Individuals and Households Program assistance and then apply directly to the State, Territorial, or Tribal entity administering the Sheltering and Temporary Essential Power Program.

Observations on Individual Assistance Program from Affected States and Territories

Texas – Hurricane Harvey

FEMA entered into an agreement with the Texas General Land Office to provide for housing recovery, marking the first time the agency has coordinated with a non-federal agency to provide this housing service, according to FEMA officials. State officials in Texas will be implementing the new housing approach to manage the delivery of direct housing to more than 6,600 applicants whom FEMA has determined are eligible for direct assistance. FEMA has approved the following direct housing options for eligible applicants in Texas: Permanent Housing Construction Repairs, Direct Lease, Multifamily Lease and Repair, Manufactured Housing Units, and Recreational Vehicles. Local officials cited several advantages to the new housing approach such as the ability to keep homeowners and families in their district thereby sustaining a jurisdiction's tax revenue, supporting businesses, and maintaining public education funding.

Florida – Hurricane Irma

In Florida, state officials preferred to utilize the Direct Lease option to leverage the high volume of vacation rentals, particularly in Lee, Collier, and Monroe counties. FEMA authorized the use of recreational vehicles, purchased directly from commercial dealers, for use as temporary housing, in addition to manufactured homes, as shown in figure 26. FEMA officials estimated that manufactured homes can cost up to $113,000 while the travel trailers are about $60,000. According to FEMA officials, the decision whether to use the manufactured home, travel trailer or Direct Lease housing options depends on the availability of feasible sites. A FEMA official visits each resident in FEMA housing monthly to check on their progress in transitioning out to their own housing, according to FEMA officials.

Figure 26: Example of an Off-the-lot FEMA-purchased Trailer in Key Largo, Florida for Mobility-impaired Survivors

Source: GAO. | GAO-18-472

Puerto Rico – Hurricane Irma and Hurricane Maria

In Puerto Rico, all five IA programs are approved—the Individuals and Households Program, Crisis Counseling, Disaster Legal Services, Disaster Case Management, and Disaster Unemployment Assistance. As of December 2017, more than 1 million residents had applied for IA and FEMA officials extended the deadline to apply through March 2018. FEMA officials told us that they anticipated needing to assist residents in taking next steps to follow up on their applications and collect funds.

According to FEMA officials, they are also using multiple programs and authorities to provide aid to residents with housing needs, including the Direct Lease and the Multifamily Lease and Repair Programs, and the Permanent Housing Construction Repair Program. FEMA is also providing sheltering and emergency assistance through the TSA program, and the STEP program (known as Tu Hogar Renace - Your Home Reborn in Puerto Rico), among others. For example, under STEP, repairs can be done while homeowners remain in place, and the program may provide up to $20,000 for repairs (although the Federal Coordinating Officer—the lead federal official in charge of response—has the discretion to approve greater costs to accommodate a household's access and functional needs or when the home requires a generator). FEMA estimates that STEP assistance may be provided for 80,000 homes or more. As of June 22, 2018, FEMA had approved 33,016 survivors to use the program in Puerto Rico.

U.S. Virgin Islands – Hurricane Irma and Hurricane Maria

Local officials said they plan to address a shortage of housing through unique housing routes—for example, structured tents, which are used in military operations and are built to withstand 140 mph winds.

California Wildfires

According to California officials, in partnership with FEMA, they established a Housing Task Force to determine how to provide direct housing assistance to thousands of applicants in a timely manner, and incorporate lessons learned from prior wildfire disaster experiences in the state. The task force is also examining options to convert campgrounds into temporary housing.

Contact

View GAO-18-472. For more information, contact Chris Currie at (404) 679-1875 or curriec@gao.gov.

Prior Relevant GAO Reports on FEMA's Individual Assistance Program

Federal Disaster Assistance: Individual Assistance Requests Often Granted, but FEMA Could Better Document Factors Considered. GAO-18-366. Washington, D.C: May 31, 2018.

Appendix VII: Fraud Risk Management in FEMA's Disaster Assistance Programs

Overview

Effective fraud risk management, including controls to prevent, detect, and respond to fraud, can help ensure that federal disaster assistance programs serve their intended purpose, taxpayer dollars are spent effectively, and government assets are safeguarded.

Our Fraud Risk Framework provides a guide for federal program managers to use when developing or enhancing efforts to combat fraud in a strategic, risk-based manner. The framework includes leading practices in four components: (1) Commit to combating fraud; (2) Assess fraud risks; (3) Design and implement a strategy with specific control activities; and (4) Evaluate and adapt fraud risk management activities.

Source: GAO. | GAO-18-472

Further, the Fraud Reduction and Data Analytics Act of 2015 requires agencies to establish financial and administrative controls that incorporate the Fraud Risk Framework's leading practices.

Observations from Prior Work and Affected States and Territories

The size and scope of the 2017 hurricanes and California wildfires raises questions about the ability of Federal Emergency Management Agency (FEMA) program managers to balance the need to quickly deliver benefits and services while minimizing the risk of fraud, waste, and abuse. Balancing these goals is particularly important given the amount of funds involved—as of June 2018, at least $120 billion had been appropriated to the Department of Homeland Security (DHS), including FEMA, and 18 other federal agencies for activities related to the 2017 disasters.[6]

Since the mid-2000s, FEMA has taken some steps to address identified fraud risks in its disaster assistance programs. Specifically, our prior work found that FEMA strengthened its fraud prevention controls and took other actions to address fraud risks in the Individuals and Households Program (IHP)—one component of the Individual Assistance program.[7] As a result, we identified about $39 million (2.7 percent) of IHP assistance provided following Hurricane Sandy in 2012 that was at risk of being improper or fraudulent, compared to between $600 million and $1.4 billion (10 to 22 percent) of similar assistance provided following hurricanes Katrina and Rita in 2005.

However, the 2017 disasters highlighted the challenges FEMA may continue to face with fraud risks. According to FEMA officials, FEMA identified a well-organized and coordinated identity theft fraud scheme that affected Texas, Florida, Puerto Rico, the U.S. Virgin Islands, and California—a scheme it had not identified following prior disasters. Further, officials from one county we visited as part of this review expressed concern about the risk of fraud and the county's ability to handle disaster payment activities given the volume of transactions the county expects. Moreover, we have previously reported that changes within a program—such as changes in the implementation of the Individual Assistance and Public Assistance programs in areas impacted by the 2017 disasters—can affect the extent to which controls continue to be effective or appropriate for addressing fraud risks.[8]

As described below, FEMA took some steps to address identified fraud risks following the 2017 disasters and earlier events. We are continuing to assess the extent to which FEMA's actions to manage fraud risks in the Public

[6]Supplemental Appropriations for Disaster Relief Requirements Act, 2017, Pub. L. No. 115-56, div. B, 131 Stat. 1129, 1136 (2017); Additional Supplemental Appropriations for Disaster Relief Requirements Act, 2017 Pub. L. No. 115-72, div. A, 131 Stat. 1224, 1224 (2017); Further Additional Supplemental Appropriations for Disaster Relief Requirements Act, 2018, Pub. L. No. 115-123, div. B, subdiv. 1, 132 Stat. 64, 65 (2018).

[7]GAO, *Hurricane Sandy: FEMA Has Improved Disaster Aid Verification but Could Act to Further Limit Improper Assistance*, GAO-15-15 (Washington, D.C.: Dec. 12, 2014).

[8]GAO, *A Framework for Managing Fraud Risks in Federal Programs*, GAO-15-593SP (Washington, D.C.: July 28, 2015).

Assistance program align with leading practices described in our Fraud Risk Framework.[9]

Commit: Commit to combating fraud by creating an organizational culture and structure conducive to fraud risk management.

The first component of the Fraud Risk Framework calls for agencies to, among other things, designate an entity to design and oversee fraud risk management activities and to involve all levels of the agency in setting an antifraud tone. Multiple entities within FEMA have designated responsibilities related to fraud risk management. Specifically, the Fraud and Internal Investigations Division (FIID), established in response to fraud associated with major hurricanes in the mid-2000s, is responsible for identifying, mitigating, and preventing fraudulent losses of federal funds and assets by, among other things, reviewing FEMA programs to identify potential improvements to internal controls to prevent and detect fraud, waste, and abuse. In addition, the Director of Risk Management and Compliance is responsible for assisting FIID in the development of antifraud controls. FEMA's Fraud Prevention and Investigation Directive, signed by the Administrator of FEMA in 2014, establishes antifraud responsibilities for several other entities within FEMA, including the Administrator, Regional Administrators, and the Chief Financial Officer, among others. Further, the directive requires all FEMA employees, contractors, and other personnel to take all necessary and proper actions to eliminate fraud, waste, and abuse in FEMA programs.

FIID provides detailed fraud awareness and prevention training—a key responsibility of antifraud entities, according to the Fraud Risk Framework—to FEMA staff, including those responsible for processing disaster assistance applications, according to FIID officials. Increasing employees' awareness of potential fraud schemes—by providing training to stakeholders responsible for program implementation—can help create a culture of integrity and help enable employees to better detect potential fraud.

For the 2017 disasters, FIID added fraud alerts and updates to the daily, pre-shift briefings provided to FEMA IHP intake personnel. These briefings communicated information that the Fraud Risk Framework identifies as key to effective antifraud training, including how to report suspicions of fraud, waste, and abuse; procedures registration and intake personnel and processing staff should follow if an application involves possible fraud or a high-risk applicant; and information on emerging fraud risks and trends identified during the 2017 disasters.

Assess: Plan regular fraud risk assessments and assess risks to determine a fraud risk profile.

The second component of the Fraud Risk Framework calls for federal managers to identify and assess risks, examine the suitability of existing fraud controls, document a fraud risk profile, and prioritize and determine responses to remaining risks. FEMA has taken some actions to identify and assess fraud risks related to the 2017 disasters. After identifying the identity theft fraud scheme following the 2017 disasters, FEMA hired a contractor in December 2017 to identify and assess fraud risks to the Individual Assistance program, including identifying FEMA stakeholders' fraud risk tolerance and developing a fraud risk profile. In addition, the tasks listed in

[9]GAO-15-593SP.

the contract include, among other things, using the fraud risk profile to assess FEMA's existing controls, reviewing data from past incidents of fraud to identify any control gaps and deficiencies, and making recommendations on ways to improve or add controls. The estimated completion date for the contracted work is August 2018. In addition to the contracted work, FIID is responsible for independently reviewing FEMA programs to identify potential improvements to internal controls to prevent and detect fraud, waste, and abuse. FIID has conducted four reviews of the IHP since 2014 to determine if any indications of fraud are associated with applicants' case files. These reviews did not identify any needed program improvements, according to a FIID official.

FEMA does not have plans to award a contract to identify and assess fraud risks in its Public Assistance program, according to FEMA officials. Instead, according to FEMA's monitoring plan, FEMA incorporates consideration of fraud risk as part of its monitoring approach for Public Assistance grant recipients and conducts a risk assessment of recipients on a rotating, 2-year schedule. Specifically, to determine a grant recipient's risk level, FEMA considers patterns that may reflect recipient issues, such as a history of irregularities in expenditures, a history of disallowed or inappropriate use of funds, and risk of fraud, waste, and abuse. In addition, FEMA considers other factors, such as audit findings, changes in recipient staff, and the dollar value of the grant. According to FEMA officials, FEMA implemented additional controls in Puerto Rico for the Public Assistance grant program based on the results of its risk assessment of Puerto Rico. The additional controls include a manual drawdown process that requires the territorial government of Puerto Rico to fully substantiate all costs claimed for reimbursement before FEMA will authorize the funds for release. In similar risk assessments, FEMA found that grants provided to the U.S. Virgin Islands for recovery from hurricanes Irma and Maria were medium-to-high risk. As a result, FEMA determined it would conduct an onsite monitoring visit for these grants in 2018.

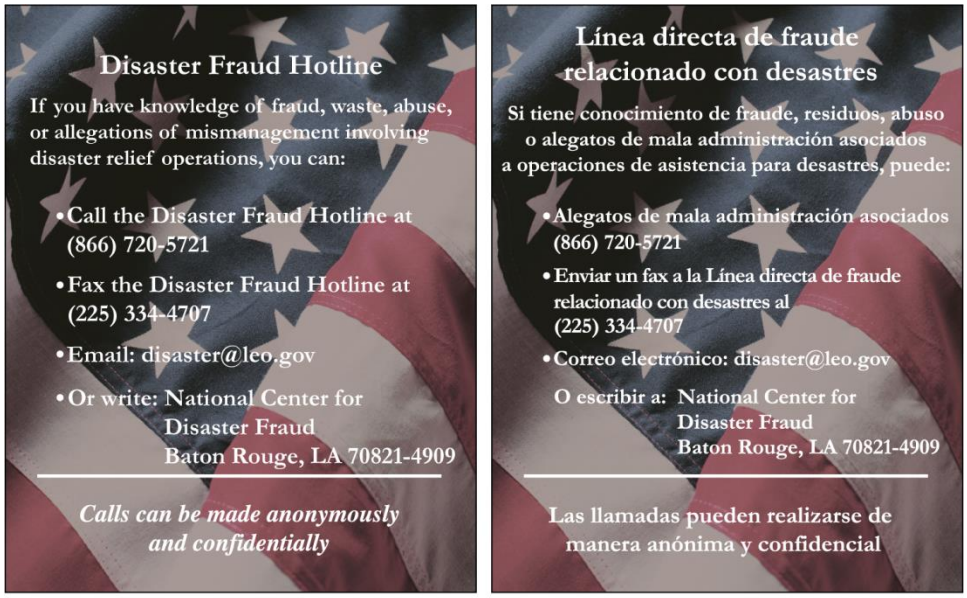
Design and Implement: Design and implement a strategy with specific control activities to mitigate assessed fraud risks and collaborate to help ensure effective implementation.

The third component of the Fraud Risk Framework calls for federal managers to design, implement, and document an antifraud strategy with specific control activities—including reporting mechanisms, data-analytics activities, and fraud-awareness initiatives, among others—to mitigate assessed fraud risks. Further, the Fraud Risk Framework identifies the consideration of the benefits and costs of control activities to address fraud risks as a leading practice, as it can help managers determine if the benefits of a control activity exceed its costs—such as delays for legitimate applicants. During the 2017 disasters, FEMA took steps to design and implement the following antifraud controls, among others:

- **Reporting mechanisms**: Members of the public and FEMA staff have multiple options to report potential fraud, and FEMA publicized these reporting mechanisms following the 2017 disasters in several ways. For example, FEMA's webpages related to Hurricane Harvey in Texas and Hurricane Irma in Florida include examples of fraud schemes, how to report fraud by phone or email to the National Center for Disaster Fraud, and a link to the fraud website for the DHS Office of the Inspector General fraud, waste, and abuse hotline. We also observed disaster fraud hotline posters on display in the Joint Field Office in San Juan, Puerto Rico. The posters—in both English and Spanish—included multiple options for reporting potential fraud,

as shown by the example in figure 27. The Fraud Risk Framework identifies establishing reporting mechanisms, including hotlines and other mechanisms for receiving tips, as a leading practice for managing fraud risks. Further, the Fraud Risk Framework notes that it is a leading practice for managers to provide multiple options for potential reporters of fraud to communicate and to promote the existence of reporting mechanisms.

Figure 27: Examples of Disaster Fraud Hotline Posters Displayed in the Joint Field Office in San Juan, Puerto Rico



Source: National Center for Disaster Fraud. | GAO-18-472

- **Data-analytics activities:** According to the DHS Fiscal Year 2017 Agency Financial Report, FIID conducts data mining of FEMA's databases to identify IHP applications containing common indicators of fraud. The Fraud Risk Framework identifies the implementation of data-analytics activities, including data mining to identify red flags that may indicate suspicious activity, as a leading practice for detecting potential fraud. According to FIID officials, FIID uses data-mining queries to identify red flags, such as indicators that a damaged dwelling may not be the applicant's primary residence, or instances in which the same Social Security Number was used for different damaged dwellings.

  After FIID officials became aware of the identity theft fraud scheme, FIID ran new queries for the 2017 disasters to flag applications with indicators of this scheme, such as applications with questionable banking information, and subjected these cases to additional validation, according to FEMA officials. About 30 percent of Individual Assistance applications in California were flagged as potentially fraudulent because they matched at least one of these queries, which caused a delay in the distribution of funds to actual survivors, according to FEMA officials. According to a FEMA official, the process appears to have been effective at stopping payment on fraudulent applications, although not all of the identified applications were necessarily fraudulent as they may have met one of the flags for legitimate reasons. FEMA will need to assess the process, including the delay for legitimate applicants, according to the FEMA official. According to the contract to identify and assess fraud risks to the Individual Assistance program, the contractor is to develop an implementation strategy, including a cost-benefit analysis, for

recommended improvements to existing controls or development of additional controls.

Further, FEMA has taken steps to improve its antifraud controls to prevent and detect fraud and improper payments in response to our findings and recommendations from prior reports. For example, in 2008 FEMA began requiring, among other things, that an inspector meet with an applicant to verify occupancy and confirm that a property was damaged after we identified instances in which FEMA made IHP payments to applicants who used ineligible or bogus addresses following hurricanes Katrina and Rita in 2005.[10] Also, after we determined that FEMA made nearly $17 million in potentially fraudulent or otherwise improper rental assistance payments to individuals through the IHP after they had moved into FEMA trailers following hurricanes Katrina and Rita, we recommended that FEMA take steps to address the issue.[11] In January 2010, FEMA addressed this recommendation by upgrading its data system to display all housing assistance an applicant had received, improving the ability of FEMA caseworkers to identify potential overlapping assistance.

In addition to designing antifraud control activities, collaboration with stakeholders is essential to help ensure that antifraud controls are implemented effectively, according to the Fraud Risk Framework. Specifically, the framework notes that a leading practice for establishing collaborative relationships is to provide guidance and other support to help external parties, such as state and local officials, effectively carry out fraud risk management activities. According to FEMA officials, FEMA offers technical assistance, such as programmatic eligibility reviews, to help prevent fraud and established the Procurement Disaster Assistance Team in 2014 to help increase grant compliance among recipients and subrecipients. The Procurement Disaster Assistance Team is tasked with proactively developing and providing training and guidance materials. Officials from one county in California receiving Public Assistance grant funds that we interviewed noted that they received training from FEMA on fraud issues, although officials from another county we interviewed indicated that additional training could be helpful.

Evaluate and Adapt: Evaluate outcomes using a risk-based approach and adapt activities to improve fraud risk management.

Finally, the Fraud Risk Framework calls for agencies to evaluate outcomes using a risk-based approach and adapt activities to improve fraud risk management. FEMA has taken steps to measure outcomes of its antifraud approach for the IHP. FIID evaluates the success of its antifraud approach for the IHP—which has shifted from a reactive to a preventative model, according to FEMA officials—by comparing the amount of potentially fraudulent funds it has prevented from being disbursed with what is submitted for recoupment. Specifically, according to the DHS Fiscal Year 2017 Agency Financial Report, FIID locks IHP applicant files that contain common indicators of fraud in order to prevent fraudulent funds from being disbursed. As a result, according to the report, FIID prevented $20.6 million from being disbursed in fiscal year 2017 and submitted $3.6 million for recoupment,

[10]GAO, *Hurricanes Katrina and Rita: Unprecedented Challenges Exposed the Individuals and Households Program to Fraud and Abuse; Actions Needed to Reduce Such Problems in Future*, GAO-06-1013 (Washington, D.C.: Sept. 27, 2006).

[11]GAO, *Hurricanes Katrina and Rita Disaster Relief: Continued Findings of Fraud, Waste, and Abuse*, GAO-07-300 (Washington, D.C.: Mar. 15, 2007).

compared with fiscal year 2014 when it prevented $4.4 million from being disbursed and submitted $7.2 million for recoupment.

In addition, FIID takes steps to adapt its antifraud data analytics for the IHP. According to FEMA officials, after FIID identified the identity theft fraud scheme following the 2017 disasters, FEMA suspended emergency payments for critical needs to over 200,000 suspicious applicants in Texas, Florida, Georgia, Puerto Rico, and the U.S. Virgin Islands, which prevented millions of dollars in potentially fraudulent disaster payments from being disbursed. FIID also evaluates the success of its data-mining queries by calculating the percentage of IHP applicants in the query that were found to be fraudulent. FIID then implements the most effective queries for all disasters, according to FEMA officials. Further, according to FEMA program officials, they evaluate the effectiveness of internal controls through testing to identify improper payments, quality control reviews, and audits.

Contact

View GAO-18-472. For more information, contact Rebecca Shea at (202) 512-6722 or shear@gao.gov.

Prior Relevant GAO Reports on Fraud Risk Management in FEMA's Disaster Assistance Programs

A Framework for Managing Fraud Risks in Federal Programs. GAO-15-593SP. Washington, D.C.: July 28, 2015.

Hurricane Sandy: FEMA Has Improved Disaster Aid Verification but Could Act to Further Limit Improper Assistance. GAO-15-15. Washington, D.C.: December 12, 2014.

Hurricanes Katrina and Rita Disaster Relief: Continued Findings of Fraud, Waste, and Abuse. GAO-07-300. Washington, D.C.: March 15, 2007.

Hurricanes Katrina and Rita: Unprecedented Challenges Exposed the Individuals and Households Program to Fraud and Abuse; Actions Needed to Reduce Such Problems in Future. GAO-06-1013. Washington, D.C.: September 27, 2006.

Appendix VIII: Payment Integrity and Prior Identified Requirements for Disaster Relief Funding

Overview

When disasters occur, the destruction they cause must be addressed immediately, and disaster relief funding must be delivered expeditiously. However, the risk for improper payments increases when billions of dollars are being spent quickly. For many years, GAO and the Inspector General community have identified internal control weaknesses in the federal government related to agencies receiving supplemental funds for disaster assistance.

Standards for Internal Control in the Federal Government sets the standards for an effective internal control system for federal agencies and provides the overall framework for designing, implementing, and operating an effective internal control system.

Mandated Requirements to Ensure Payment Integrity for the 2017 Disasters

With supplemental appropriations totaling at least $120 billion in additional funding for activities related to the 2017 hurricanes and wildfire disasters, Congress provided an oversight framework for these funds related to internal control and improper payments. Congress included the following key payment integrity provisions to help assure that all the funds are being spent as efficiently and effectively as possible:[12]

- Federal agencies are required to submit their plans for ensuring internal control over disaster relief funding to GAO, respective Inspectors General, the Office of Management and Budget (OMB), and Congress.
- OMB is required to issue standard guidance for federal agencies to use in designing internal control plans for disaster relief funding.

Observations from Prior Work on Payment Integrity

We have previously reported deficiencies related to federal agencies' establishment of required internal control plans in response to natural disasters and OMB's guidance for development of those plans. Specifically, in 2013, we reported on deficiencies in the internal control plans related to Hurricane Sandy disaster funding. These concerns may continue to be an issue for agencies after the 2017 disasters and we will monitor their efforts as part of our ongoing work.

Federal Agencies' Internal Control Plans

Agencies prepared Hurricane Sandy disaster relief internal control plans based on OMB guidance but did not consistently apply the guidance in preparing these plans. OMB Memorandum M-13-07, Accountability for Funds Provided by the Disaster Relief Appropriations Act, directed federal agencies to describe incremental risks they identified for Hurricane Sandy disaster relief funding and provide internal control strategies for mitigating these risks. Each of the 19 agencies responsible for the 61 programs receiving funds under the Disaster Appropriations Act 2013 submitted an internal control plan with specific program details using a template that OMB provided. In November 2013, we reported that agencies' plans ranged from providing most of the required information to not providing any information on certain programs. For example, each of the 61 programs was required to discuss its protocol for improper payments; however, we found that 38 programs included this information, 11 included partial information, and 12 included no information.

OMB Guidance for Development of Internal Control Plans

We also reported that OMB's guidance was an important step in the oversight of Hurricane Sandy disaster funding, addressing internal controls,

[12]See Pub. L. No. 115-123, § 21208, 131 Stat. 64 (2018); Pub. L. No. 115-72, § 305, 131 Stat. 1224, 1227-28 (2017).

improper payments protocol, and unexpended grant funds. However, we identified several weaknesses in OMB's guidance that limited its effectiveness in providing a comprehensive oversight mechanism for these funds. Specifically, the guidance (1) focused on identifying incremental risks without demonstrating that known risks had been adequately addressed; (2) provided agencies with significant flexibility as it did not require documentation or criteria for claiming exceptions, such as why the OMB requirements were not feasible or practicable; and (3) resulted in certain agencies developing their internal control plans at the same time that funds needed to be quickly distributed. We recommended that OMB develop more robust guidance for agencies to design internal control plans for future disaster relief funding. In commenting on the draft report, OMB staff generally agreed with our recommendation. On July 15, 2016, OMB issued the revised Circular No. A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control*. The circular requires agencies to implement enterprise risk management, which includes developing a risk profile that analyzes the risks faced in achieving strategic objectives and identifies options for addressing them. However, the revised circular did not include specific guidance for identifying risks related to disaster funding; thus, the recommendation remains open. We plan to continue monitoring OMB's progress in implementing this recommendation.

Contact

View GAO-18-472. For more information, contact Beryl H. Davis at (202) 512-2623 or davisbh@gao.gov

Prior Relevant GAO Reports on Payment Integrity Related to Disaster Relief Fundings

Hurricane Sandy Relief: Improved Guidance on Designing Internal Control Plans Could Enhance Oversight of Disaster Funding. GAO-14-58. Washington, D.C.: November 26, 2013.

Appendix IX: FEMA's Public Assistance Grant Program

Overview

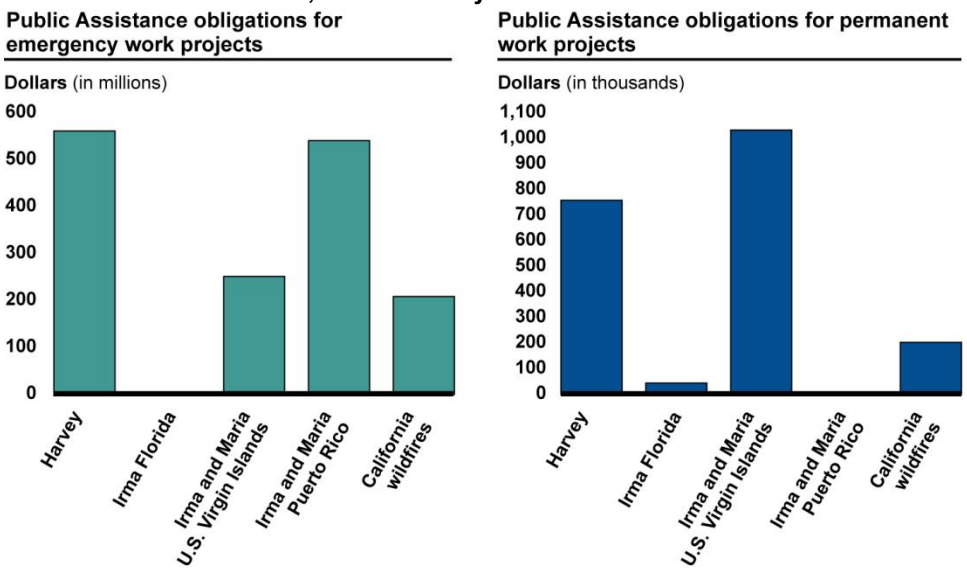
FEMA's Public Assistance grant program is administered through a partnership between FEMA and the state grantee, which provides funding to local officials.

In recent years, FEMA has redesigned the PA program to address past challenges and make the program easier for FEMA and grantee officials to manage. These efforts represent FEMA's "new delivery model" for awarding PA program grants. Officials implemented the new model in Texas and Florida after hurricanes Harvey and Irma, and announced the national use of the new model for PA concurrent with this decision.

Public Assistance Program Activities for Disaster Recovery

As of February 2018, FEMA had obligated close to $1.5 billion in PA grants to three states and two territories recovering from hurricanes Harvey, Irma, and Maria, as well as the California wildfires for emergency work projects—such as debris removal. For the longer-term projects—such as rebuilding of public facilities and infrastructure it may take months, and in some cases years, to award grant funds to state and local governments to aid in their disaster recovery—FEMA had obligated close to $2 billion as of February 2018 . See figure 28 for the PA obligations for emergency and permanent projects for the 2017 disasters.

Figure 28: Public Assistance Obligations for Emergency and Permanent Work for Each of the 2017 Disasters, as of February 2018



Source: Federal Emergency Management Agency's Emergency Management Mission Integrated Environment. | GAO-18-472

Note: Emergency work projects include debris removal and emergency protective measures, such as flood fighting activities, evacuation and sheltering of disaster survivors, and providing medical care and transport. Permanent work projects include the repair of damaged facilities such as the repair of dirt roads.

FEMA and local officials we interviewed in Texas, Florida, Puerto Rico, and the U.S. Virgin Islands noted early recovery challenges, in part, related to the new approaches to PA grant administration. Specifically, officials identified:

Debris Removal Challenges: Local officials managing the recovery from each disaster raised concerns about challenges with debris removal, for example, such as the limitations of local officials' pre-positioned contracts that slowed the pace of removal.

PA New Delivery Model: Texas, Florida, and California are using the new PA model. Under the new model, FEMA redesigned processes for

developing, reviewing, and approving grant applications. The agency created specialized roles; implemented a centralized and standardized grant processing approach; took steps to increase hazard mitigation; and is developing a new information system to better maintain and share grant documentation. However, all three states have faced challenges with implementation due to lack of experience and expertise.

PA Alternative Procedures: FEMA began the pilot approach after Hurricane Sandy, to provide more flexibility for program administration and incentivize applicants to complete projects in a timely and cost-effective manner. Puerto Rico will use the PA Alternative Procedures; however, the process is under development in Puerto Rico and FEMA has not used it at this scale before.

Observations from the 2017 Disaster-Affected States

Experiences with the PA program in the affected states varied across the four 2017 disasters, but early observations from officials indicate that challenges with debris removal, the new PA delivery model, and the PA Alternative Procedures may result in long-term effects on community and infrastructure recovery.

Debris Removal Challenges in Each Disaster

- *Hurricane Harvey (Texas)*: Local officials in Texas noted that debris removal was a challenge, but indicated that they were able to make progress through internal efforts and coordination with FEMA. For example, local officials in one jurisdiction noted problems with the use of pre-positioned contracts. In this case, the officials hired military personnel to help move debris. In another case, local officials noted delays in debris removal due to resource constraints—having only 25 trucks—and receiving slow responses from FEMA, on questions such as how to address debris removal from gated communities. Local officials that did not note concerns with debris removal credited coordination with FEMA officials, expedited funding from FEMA, and daily calls with the state as the basis for their success.

- *Hurricane Irma (Florida)*: Local officials in Florida highlighted debris removal as the greatest challenge they experienced early in the recovery. The Federal Coordinating Officer (FCO)—the lead federal official in charge of response—in Florida reported that there was a shortage of contractors for debris removal because contractors are primarily located in the Gulf Coast area and serve a national market. See figure 29 for a picture of debris that was awaiting pick up by contractors in Big Pine Key, Florida. Also, many debris contractors were still engaged in Texas following Hurricane Harvey. Further, some preexisting contracts were awarded up to 5 years before Hurricane Irma, but the market had changed and newer contracts were offering more money per cubic yard of debris removal. As such, some vendors, despite being under contract in other locations, prioritized work in jurisdictions that offered higher rates according to the FCO in Florida. According to officials in one county, they had to compete for debris removal contractors, after contractors increased their prices, due to the high demand across Texas and other parts of Florida in the aftermath of the hurricanes. Local officials in Florida also faced challenges identifying who was responsible for debris removal from waterways, raising concerns about the environmental impacts.

Figure 29: Staging Debris along Route 1 near Big Pine Key, Florida October 2017

Source: GAO. | GAO-18-472

- *Hurricane Irma and Hurricane Maria (U.S. Virgin Islands)*: Officials faced unique challenges with staging and debris removal, due to the widespread vegetative damage across the islands. According to a FEMA official, there were challenges supporting the debris removal operation because local officials did not want to burn the vegetative debris.
- *Hurricane Irma and Hurricane Maria (Puerto Rico)*: According to FEMA and local officials in Puerto Rico, debris removal will require coordination among local contractors hired by each municipality, the U.S. Army Corps of Engineers, and other agencies supporting recovery. According to Puerto Rico officials, local officials may experience challenges with reimbursement for debris removal activities. Further, the officials said there were resource constraints, so they had to prioritize debris removal from state-managed roads, before clearing local roads.
- *California Wildfires*: In northern California alone, the wildfires created the largest amount of debris since the 1906 earthquake, and state officials and contractors have almost completed efforts to remove debris as of March 2018, according to state officials. In California, the debris removal contract with the U.S. Army Corps of Engineers created recovery challenges due to the lack of flexibility in contracting requirements, according to local officials. Furthermore, according to California officials, the contract process resulted in a bid protest that would have delayed debris removal, but FEMA and state officials worked together to address these issues and prevent delays.

Local Experiences with the New PA Delivery Model

- *Hurricane Harvey (Texas)*: Local officials' early recovery experiences with the PA program varied. Generally, local officials noted the potential for the new process or information system to improve PA grant delivery. However, local officials also noted a lack of consistency in eligibility determinations and the knowledge and experience of program staff as presenting a potential challenge for their overall recovery. For example,

officials in one county raised concerns about inconsistent eligibility determinations, where there are still open disaster declarations and PA projects from flooding events in 2015 and 2016 that occurred prior to Hurricane Harvey. FEMA had not obligated funds for these projects, due to changing eligibility determinations made by FEMA officials throughout the process, which may subsequently impact obligations for Hurricane Harvey projects, according to county officials. However, FEMA headquarters officials noted that the new delivery model has not changed eligibility criteria or authorities for eligibility determinations and was not being applied retroactively to old disasters. In another county, officials also noted that FEMA staff could not answer questions on the new PA process and this raised concerns that PA staff were not documenting information in the new IT system. In particular, the officials cited challenges with support for developing mitigation proposals, and hired contractors to help develop mitigation project proposals after hazard mitigation specialists were unable to provide assistance. Moreover, the officials stated that they did not receive training on the new model until after Hurricane Harvey. Other local officials also noted similar gaps in FEMA-provided training and said they lacked enough skilled staff to support their projects.

- *Hurricane Irma (Florida)*: According to local officials, problems with FEMA customer service raised concerns about the long-term effect on recovery efforts. Local officials noted that PA staff did not have the knowledge or experience necessary to provide the support they needed throughout the process. For example, in one county PA staff provided assistance learning how to use the new IT system, but had not provided the detailed training on what types of information are required. In contrast, another local county official noted positive experiences with PA staff, and cited the potential for the new delivery model and new IT system to improve the program operations while reducing the administrative costs.
- *California Wildfires*: According to state officials, wildfires cause more damage to individual property owners, and therefore the public infrastructure recovery will be limited and the majority of PA projects will be emergency protective measures and debris removal. According to officials in one county, they had prior experience with the new model and process and received quick support when questions arose on the new IT system. Therefore, there have not been any problems or delays processing projects, according to local officials. The officials added that they have opted not to submit all damages, due to the documentation burden, as it is not worth their time to compile the paperwork for the project based on the amount of the award. In a second, more rural county, officials faced similar challenges but cited a lack of training for their county, inadequate support from FEMA, and untrained PA staff as challenges for their PA recovery process under the new model.

Use of PA Alternative Procedures Pilot Project

In response to the hurricanes, the governor of Puerto Rico requested the use of the PA Alternative Procedures, which FEMA began piloting after Hurricane Sandy. In Puerto Rico, Alternative Procedures are to be used for all large permanent work projects, FEMA, in collaboration with local officials, issued guidance specific to the Hurricane Maria recovery in Puerto Rico in April 2018. According to FEMA officials, using these flexibilities is unlikely to result in a faster recovery, but may offer more opportunities to rebuild with greater resilience from future hurricanes and natural hazards. FEMA officials also noted that capacity limitations—both in the PA workforce and in local officials' experiences with the program—have hampered early recovery efforts. According to FEMA officials, they did not use the new model in Puerto Rico

specific to the Hurricane Irma recovery because PA program officials released their new model guidance after Hurricane Irma recovery efforts were already underway, and officials did not want to change the process again after Hurricane Maria.

In all other locations, state and local officials have the option to use the PA Alternative Procedures. For example, in the U. S. Virgin Islands, local officials are using the Alternative Procedures pilot to meet their needs. FEMA officials in the U. S. Virgin Islands noted similar challenges with a lack of PA funding and territorial personnel to develop PA projects, as well as limitations in the skill level for those PA staff assigned to the islands. According to FEMA officials, the U.S. Virgin Islands hired an emergency management contractor to assist in preparation and oversight of PA projects to address the staffing challenges that exist for FEMA and local officials. FEMA officials also said that complex projects, such as a wastewater treatment plan in St. Thomas and two major hospitals, may present fiscal challenges in the long term.

Contact

View GAO-18-472. For more information, contact Chris Currie at (404) 679-1875 or curriec@gao.gov.

Prior Relevant GAO Reports on FEMA's Public Assistance Program Efforts

Disaster Assistance: *Opportunities to Enhance Implementation of the Redesigned Public Assistance Grant Program.* GAO-18-30, Published: November 8, 2017.

Hurricane Sandy: *An Investment Strategy Could Help the Federal Government Enhance National Resilience for Future Disasters*. GAO-15-515, Published: July 30, 2015

Appendix X: Disaster Resilience and Hazard Mitigation

Overview

The costs of severe weather events, such as those seen in 2017, are likely to continue to rise due to climate change. We have reported that, enhancing disaster resilience and hazard mitigation is essential for controlling federal fiscal exposure to disasters. However, the current funding approach, which emphasizes the post-disaster environment, can create a reactionary and fragmented approach where disasters determine when and where investment occurs. A national strategic approach to prioritizing investments could help ensure that federal funds are directed towards the most effective risk reduction efforts.

The Mitigation Framework Leadership Group—the interagency body responsible for guiding federal hazard mitigation efforts under the National Preparedness System—has released a draft National Mitigation Investment Strategy, which articulates key principles and desired outcomes to help guide a national approach to resilience investments. In addition, FEMA has included new guidance and training as part of its new delivery model for Public Assistance to help ensure that applicants seek opportunities to incorporate hazard mitigation.

Resilience and Hazard Mitigation

Disaster resilience is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse effects. Hazard mitigation actions are undertaken to enhance disaster resilience by reducing or eliminating long-term risk to people and property from natural hazards and their effects.

Figure 30: Resilience – What, Why and How

What is resilience?

Disaster resilience is the ability of individuals, communities, localities, states, regions and the nation to respond and recover from disasters in a manner that minimizes life and property losses and enables rapid return of normal economic and other life activities.

Why is disaster resilience important?

The growing number of major disaster declarations has contributed to increasing federal disaster assistance expenditures. Disaster resilience is one of the primary means the federal government has to help control the federal fiscal exposure to disasters.

How is disaster resilience achieved?

Governments at all levels and the private sector have various responsibilities and a stake in increasing disaster resilience. Because planning to increase resilience starts with understanding disaster risk, some resilience-related activities, like flood mapping and threat and hazard assessment, are designed to increase knowledge. In addition, state and local laws and regulations can heavily influence resilience efforts, for example, by strengthening building codes.

Source: GAO analysis. | GAO-18-472

Federal Pre-Disaster and Post-Disaster Hazard Mitigation Programs

The Federal Emergency Management Agency (FEMA) and other federal agencies have multiple funding mechanisms, including those outlined below, to help states and localities enhance disaster resilience and hazard mitigation—the majority of which are available after a disaster strikes.

FEMA's Pre-Disaster Mitigation Program provides funding to state, local, and tribal governments to help plan for and implement hazard mitigation projects prior to a disaster. The program's goal is to reduce overall risk to the population and structures from future hazard events.

FEMA's Hazard Mitigation Grant Program provides funding to protect states, tribes, and territories after a major disaster is declared. The recipient can then use the funds for eligible projects anywhere in the state, tribe, or territory to reduce the risk of future disaster damage.

FEMA's Public Assistance Program provides funding for hazard mitigation measures to the parts of a facility that were damaged by a disaster. Funding is limited to declared counties and eligible damaged facilities. Mitigation

measures can also be applied, in certain circumstances, to non-damaged facilities under the Public Assistance Alternative Procedures—procedures that give jurisdictions more flexibility in determining how, where, and what to rebuild, particularly after incurring significant damage—so long as they are otherwise eligible under the Public Assistance program.

Housing and Urban Development Community Development Block Grant – Disaster Recovery provides funding to address needs not met by other disaster recovery programs post-disaster, which can include disaster resilience-building projects. Funding is provided to affected cities, counties, and states, especially in low-income areas, through congressional supplemental appropriations.

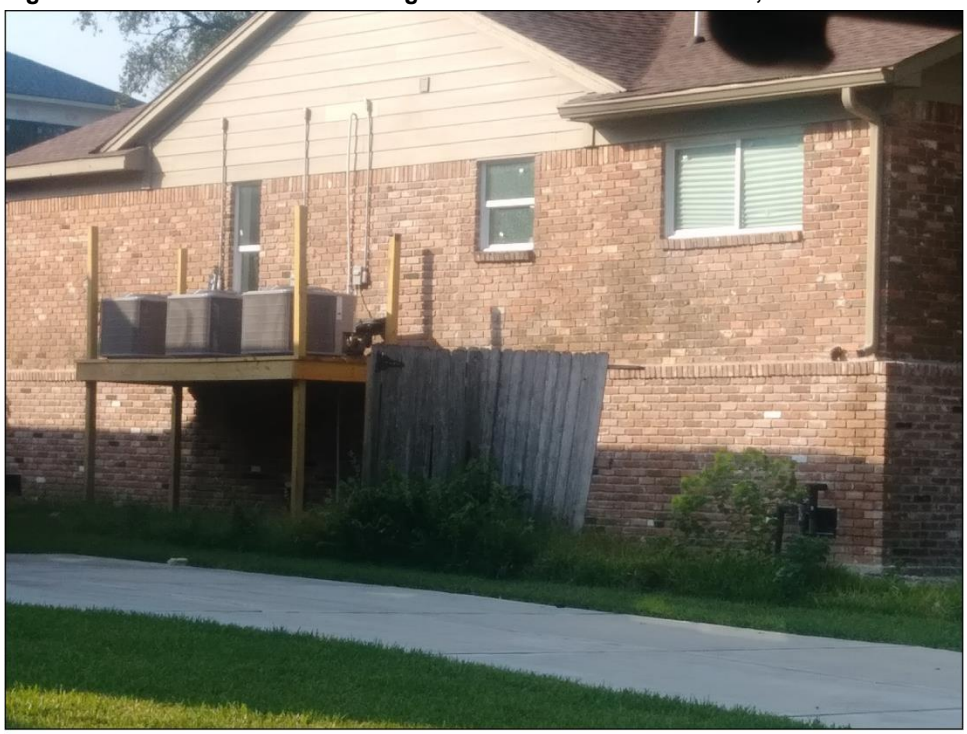
Observations from Affected States and Territories

FEMA and local officials noted how previous mitigation projects lessened the damage from the 2017 disasters in some areas and described some challenges incorporating resilience as well as plans to incorporate resilience moving forward.

Examples of Previous Successes and Challenges with Hazard Mitigation

- *Hurricane Harvey (Texas):* FEMA officials said Hurricane Harvey demonstrated how prior hazard mitigation projects prevented greater damages (e.g. elevated homes and equipment sustained less damages as shown in figure 31).

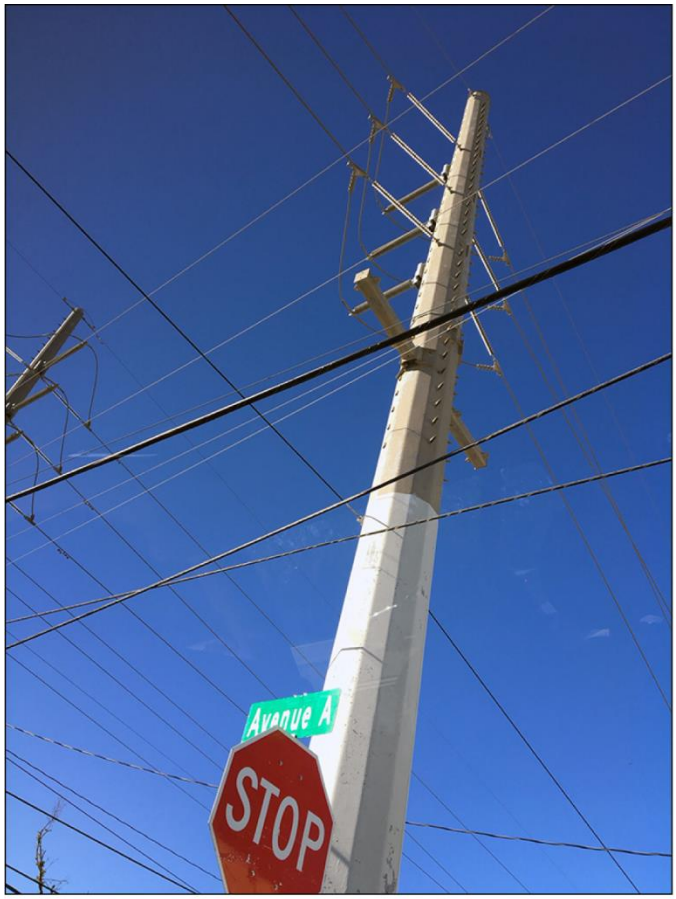
Figure 31: Elevated Air Conditioning Unit in Greater Houston Area, October 2017



Source: GAO. | GAO-18-472

- *Hurricane Irma (Florida)*: FEMA officials said Florida strengthened its building codes for resilience as a result of lessons learned from Hurricanes Andrew in 1992 and Mathew in 2016 (e.g. elevating homes). State officials noted that some areas did not lose power during Hurricane Irma due to a previous hazard mitigation effort that reinforced power poles as shown in figure 32.

Figure 32: Reinforced Power Line Poles in Monroe County, Florida, October 2017—Post Hurricane Irma



Source: GAO. | GAO-18-472

- *Hurricane Irma and Hurricane Maria (Puerto Rico):* Puerto Rico's construction codes required buildings to withstand winds of 145 miles per hour, but the force of Hurricane Maria's winds exceeded that speed at 175 miles per hour resulting in damage, according to FEMA officials.
- *Hurricane Irma and Hurricane Maria (U.S. Virgin Islands):* Previous resilience efforts helped in the U.S. Virgin Islands. For example, hurricanes Irma and Maria destroyed 90 percent of the power grid; however, due to a hazard mitigation project undertaken as a result of Hurricane Marilyn in 1995, 30 percent of the power grid was able to be restored quickly, according to FEMA officials.

Examples of Plans to Incorporate Resilience Following the 2017 Disasters

- *Hurricane Harvey (Texas):* State officials noted that localities may be more willing to incorporate resilience post-Harvey due to grants from Rebuild Texas—a state-run program intended to make counties more resilient to future storms and flooding. In addition, FEMA officials said

they have staff identifying opportunities for mitigation on infrastructure projects.

- *Hurricane Irma (Florida)*: FEMA has held workshops with local residents on hazard mitigation measures such as adding window shutters, strapping down roofs, and installing different types of glass, according to agency officials.
- *Hurricane Irma and Hurricane Maria (Puerto Rico):* Puerto Rico received $18.5 billion from the Housing and Urban Development Community Development Block Grant-Disaster Recovery program. While most will be spent on housing, the governor plans to invest remaining funds in power grids, infrastructure, and other hazard mitigation measures according to Puerto Rico officials.
- *Hurricane Irma and Hurricane Maria (U.S. Virgin Islands):* U.S. Virgin Islands officials are receptive to investing in infrastructure improvements, according to FEMA officials. For example, U.S. Virgin Islands officials formed a task force—including FEMA mitigation and critical infrastructure officials, the Virgin Islands Territorial Emergency Management Agency, the Department of Transportation, and other members of the governors' office—focused on rebuilding power infrastructure and two major hospitals in a resilient way, according to FEMA officials.
- *California Wildfires:* FEMA officials said they have provided wildfire resilience materials at local rebuilding fairs and are working with the state to provide mitigation grant application workshops.

Contact

View GAO-18-472. For more information, contact Chris Currie at (404) 679-1875 or curriec@gao.gov.

Prior Relevant GAO Reports on Federal Resilience Efforts

Disaster Assistance: Opportunities to Enhance Implementation of the Redesigned Public Assistance Grant Program. GAO-18-30. Washington, D.C.: November 8, 2017.

Climate Change: Information on Potential Economic Effects Could Help Guide Federal Efforts to Reduce Fiscal Exposure. GAO-17-720. Washington, D.C.: September 28, 2017.

Climate Change: Improved Federal Coordination Could Facilitate Use of Forward-Looking Climate Information in Design Standards, Building Codes, and Certifications. GAO-17-3. Washington, D.C.: November 30, 2016.

Hurricane Sandy: An Investment Strategy Could Help the Federal Government Enhance National Resilience for Future Disasters. GAO-15-515. Washington, D.C.: July 30, 2015.

Appendix XI: Department of Defense's Support of Civil Authorities during the 2017 Hurricanes and Wildfires

Overview

While DOD's primary mission is to defend the nation, the department is often asked to play a prominent role supporting civil authorities and must be prepared to provide rapid response when called upon during disasters and declared emergencies (natural or man-made). DOD provides such support through its Defense Support of Civil Authorities mission.

Consistent with the *National Response Framework*—a guide to how the federal government, states and localities, and other public and private-sector institutions should respond to disasters and emergencies—DOD primarily provides support through two approaches: (1) when requested (e.g., mission assigned) by a federal agency (e.g. FEMA, the Department of Health and Human Services, or U.S. Department of Agriculture) and approved by the Secretary of Defense, the department provides federal military forces, DOD civilians, DOD contract personnel, and DOD component assets; and (2) the U.S. Army Corps of Engineers serves as the DOD coordinating and primary federal agency for public works and engineering related response efforts.

Separate from DOD's efforts, National Guard units provide support to their governor or other governors through state-to-state emergency management assistance compact agreements. In this capacity, National Guard units and personnel do not operate as a DOD (federal) capability or resource. Instead, they serve under state law and are funded with state resources—a status commonly referred to as State active-duty status. In addition, when

Summary of DOD's Support for 2017 Disasters

The Department of Defense (DOD) provided extensive support during the 2017 hurricanes and wildfires. This support included routine support (e.g. providing food, water, planners, debris removal, temporary roofing, and federal partners access to DOD bases and facilities for staging response personnel and equipment) as well as capabilities that have not been routinely requested (e.g. using U.S. Navy ships as helicopter platforms, procuring and installing large generators, providing medical support for prolonged period of time, and power grid restoration). As shown in table 8, DOD components and organizations at all levels provided support:

Table 8: DOD Components and Personnel that Provided Support

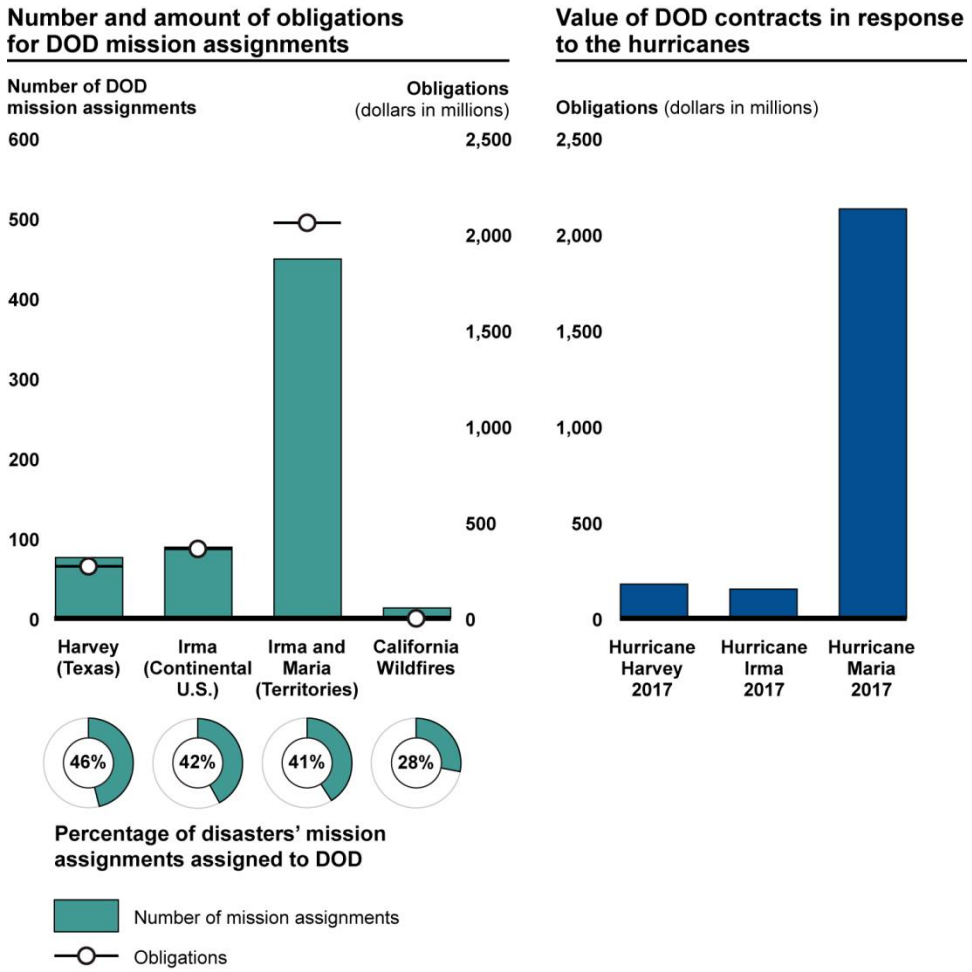
Department of Defense Components[a]
• Office of the Deputy Assistant Secretary of Defense for Homeland Defense Integration and Defense Support of Civil Authorities • Joint Staff • U.S. Northern Command • U.S. Transportation Command • National Guard Bureau • Defense Logistics Agency • U.S. Army Corps of Engineers • Defense Coordinating Officers and Elements • U.S. bases (e.g. Joint Base San Antonio, Texas, and Fort Benning, Georgia) • Military units and personnel

Source: DOD | GAO-18-472

[a] Separate from DOD's Title 10 efforts (and the 164 National Guard members who responded in Title 10 federal status), more than 56,000 Guard members from 49 states, the District of Columbia, the U. S. Virgin Islands, and Puerto Rico provided support in either State Active Duty or Title 32 status for Hurricanes Harvey, Irma, and Maria; and the California Wildfires, according to the National Guard Bureau.

The Federal Emergency Management Agency (FEMA) issued work orders directing DOD to provide support and assistance for the 2017 disasters (mission assigned). As shown in figure 33, the number of mission assignments, cost of mission assignments, and value of contracts issued by DOD varied for each of the 2017 disasters. For example, the estimated cost for a mission assignment that requested Civil Air Patrol assistance was $5,000 while the cost for the U.S. Army Corps of Engineers to restore the Puerto Rico electrical power grid was $577,000,000.

Figure 33: DOD Mission Assignment and Contract Activity for Four 2017 Disasters



Source: GAO analysis of mission assignment data from the Federal Emergency Management Agency's (FEMA) Web-Based Emergency Operations Center (WebEOC), obligations from FEMA's Integrated Financial Management Information System, and contracting data from the Federal Procurement Data System-Next Generation. | GAO-18-472

Note: Mission assignment totals and percentages reflect data entered into FEMA's Web-based Emergency Operations Center system of approved resource requests by response officials, where data are available, as of January 2018. This does not include 1,285 request records (out of 3,338 total) for which data are not available to determine whether FEMA sourced the request through a mission assignment or other source, and 74 records for which data are not available to determine which agency FEMA assigned out of the 1,515 mission assignments reviewed.

DOD was asked to support more mission assignments in the U.S. Virgin Islands and Puerto Rico than in Texas and Florida due to a number of factors. According to DOD, state and local officials in Texas and Florida were more experienced and prepared to respond to the hurricanes that affected their states and were able to rely on National Guard and other resources from unaffected areas of the state. Also, according to DOD officials, due to the circumstances—including power grid destruction and being accessible only by air or sea—DOD was asked to provide support in the U.S. Virgin Islands and Puerto Rico that the department has not typically provided for prior hurricanes.

Observations from Affected States and Territories

Hurricane Harvey (Texas): While DOD provided support prior to Hurricane Harvey's landfall (e.g. pre-positioned generators and fuel), the majority of mission assignments that FEMA requested from DOD occurred after the storm stalled over southeast Texas. Such support included:

- Army units provided high-water vehicles and Marine Corps units provided amphibious vehicles and boats to rescue over 6,000 citizens from flooded

areas in support of Texas and to transport supplies for the American Red Cross and support FEMA logistics efforts, as shown in figure 34.

Figure 34: Army High-Water Vehicle use in Texas

Source: U.S. Army. | GAO-18-472

- Air Force, Navy, and Army aircraft provided search and rescue aircraft saving over 1,000 individuals. Air Force also provided airborne command and control aircraft and imagery that provided improved capability for numerous interagency aircraft supporting search and rescue operations to safely operate in very busy airspace.
- Air Force C-130s sprayed over 2.7 million acres of areas that had troublesome mosquito populations.
- Joint Base San Antonio provided two separate locations (Randolph AFB and Seguin Auxiliary Airfield) as staging areas for thousands of tractor trailers that were used to distribute commodities. Naval Air Station Corpus Christi provided FEMA the use of a nearby training airfield where tents, showers and feeding facilities could be established to house emergency responders so they did not compete with hurricane survivors for local hotel spaces.

Hurricane Irma (Florida): With DOD providing ongoing support for Hurricane Harvey victims and Hurricane Irma having hit the Caribbean a few days earlier, DOD provided support prior and subsequent to the hurricane hitting Florida. DOD support included:

- U.S. Transportation Command provided emergency response planners and used its aircraft to fly FEMA's urban search and rescue teams, Health and Human Services disaster medical assistance teams, and relief supplies and equipment into the state, as shown in figure 35.

Figure 35: Air Force Reservist Prepare a Pallet of Supplies for Shipment to Florida

Source: U.S. Air Force. | GAO-18-472

- Navy personnel from the USS *New York*, USS *Iwo Jima*, and USS *San Jacinto* provided 6,372 meals, 14,719 gallons of water, and 1 medical evacuation in the vicinity of Key West.
- Special Operations personnel supported FEMA's public affairs efforts.
- DOD provided geo-imagery analysts to FEMA's National Response Coordination Center that assisted FEMA with damage assessment capabilities.
- 10 military installations were used for commodity and equipment staging, FEMA Incident Management Assistance Teams, operations facilities, and Urban Search and Rescue teams' accommodations.

Hurricane Irma and Hurricane Maria (Puerto Rico/U.S. Virgin Islands): DOD was able to reposition U.S. Navy ships that were enroute to support Hurricane Harvey to the U.S. Virgin Islands; these and other DOD capabilities that were providing assistance to the Virgin Islands were able to provide immediate support to Puerto Rico after Hurricane Maria hit the island as shown in figure 36. DOD support included:

- The Marine Corps provided two Doppler radar units, meteorologists, and radar technicians that provided weather forecasts and facilitated aviation safety on the U. S. Virgin Islands and Puerto Rico.

Figure 36: Supply delivery to U. S. Virgin Islands and Puerto Rico

Source: U.S. Navy. | GAO-18-472

- U.S. Army Reserve unit provided mortuary affairs services at multiple locations, including local hospitals.
- DOD supported the State Department in evacuating approximately 6,000 U.S. citizens from the British Virgin Islands to Puerto Rico.
- Army and Air Force set up medical support hospitals and the Navy provided medical services aboard and alongside the USNS *Comfort*. For example, the Army deployed a temporary medical facility to St. Croix that included emergency medical care services, urgent care medical services, temporary patient holding, and ancillary services to triage and medically treat approximately 200 disaster victims per day to stabilize medical care at local hospitals.
- Special operations units provided information support, which included public affairs messaging to the affected population and had a major impact in communicating messages to the affected population when there was little or no radio or TV public broadcasts.
- U.S. Army Corps of Engineers provided temporary emergency power, temporary roofing, debris management, infrastructure assessment, critical public facility restoration and temporary housing. The U.S. Army Corps of Engineers is also repairing the power grid in Puerto Rico.
- Defense Logistics Agency provided, among other things, power poles, pharmaceuticals, handheld radios, generators, water, meals, human remains pouches, and fuel.

2017 California Wildfires: According to DOD officials, National Guard personnel in State Active Duty status primarily provided wildfire fighting capabilities. However, DOD provided commodity support and access to military bases. For example,

- Defense Logistics Agency fulfilled 3,500 orders placed by the U.S. Forest Service for emergency equipment and supplies, including 5 million AA batteries.
- Air Force provided access and use of military bases (including Travis Air Force Base and Beale Air Force Base) to stage ambulances and their

crews, as shown in figure 37, as well as housing support for federal personnel in various agencies.

Figure 37: Ambulance and Support Vehicles Staged at Travis Air Force Base, California

Source: U.S. Air Force. | GAO-18-472

Challenges and Lessons Learned from 2017 Disasters

DOD officials identified a number of challenges that they encountered during disasters that they recognize need to be addressed by DOD and its federal partners in the future. Such challenges include:

- *FEMA and Emergency Support Function lead agencies' dependence on DOD capabilities.* DOD officials stated that federal agencies have over time become too dependent on DOD capabilities during disasters. While DOD possesses some unique capabilities, some of the requested capabilities could potentially reside in other federal agencies, nongovernmental organizations, or the private sector. Similarly, according to DOD officials, the department's ability to deploy quickly and/or for extended periods of time may make DOD a preferable solution for response capabilities and support. The increased reliance may create vulnerability, if in the future, DOD capabilities are needed to conduct DOD's primary mission—to defend the nation from threats concurrent with a domestic disaster response.
- *DOD units and personnel were deploying without authorization.* DOD officials, including those from the National Guard Bureau and DOD coordinators located in FEMA regions, told us units were activating or taking action too early, which results in units self-deploying without authorization to disaster areas and potentially adversely impacting FEMA-coordinated response efforts in the areas where the units deploy.
- *Potential impact to readiness.* DOD and National Guard efforts to support civil authorities in the hurricanes and wildfires in the United States (as well as provide humanitarian support to other countries and territories) may have affected the readiness of units and commands to conduct global military operations from 2018-2020, according to DOD and National Guard officials.

- *Unclear mission integration.* DOD officials noted that integrated planning for some Emergency Support Functions, such as public health and medical services, prior to the 2017 disasters had not occurred. Such planning could have identified the status of capabilities across the government, including DOD capabilities (e.g. medical command and control elements and medical response elements). This would have clearly defined how federal departments and agencies, including DOD, should be providing support (e.g. patient evacuation and deployable medical treatment facilities).

Contact

View GAO-18-472. For more information, contact Joseph W. Kirschbaum at (202) 512-9971 or kirschbaumj@gao.gov or Chris Currie at (404) 679-1875 or curriec@gao.gov.

Prior RelevantGAO Reports on DOD Support to Civil Authorities

Defense Civil Support: DOD Needs to Address Cyber Incident Training Requirements. GAO-18-47. Washington, D.C.: November 30, 2017.

Defense Civil Support: DOD, HHS, and DHS Should Use Existing Coordination Mechanisms to Improve Their Pandemic Preparedness. GAO-17-150. Washington, D.C.: February 10, 2017.

Defense Civil Support: DOD Needs to Identify National Guard's Cyber Capabilities and Address Challenges in Its Exercises. GAO-16-574. Washington, D.C.: September 6, 2016.

Defense Civil Support: DOD Has Made Progress Incorporating the Homeland Response Force into the Chemical, Biological, Radiological, and Nuclear Response Enterprise. GAO-16-599. Washington, D.C.: June 28, 2016.

Civil Support: DOD Needs to Clarify Its Roles and Responsibilities for Defense Support of Civil Authorities during Cyber Incidents. GAO-16-332. Washington, D.C.: April 4, 2016.

Civil Support: DOD Is Taking Action to Strengthen Support of Civil Authorities. GAO-15-686T. Washington, D.C.: June 10, 2015.

Homeland Defense: DOD Needs to Address Gaps in Homeland Defense and Civil Support Guidance. GAO-13-128. Washington, D.C.: October 24, 2012.

Appendix A: Accessible Data

Data Tables

Accessible Data for Figure 15: Disaster Relief Fund Obligations and Expenditures for Hurricanes Harvey, Irma, Maria, and California Wildfires, Through April 30, 2018

Event	Obligations (in billions)	Expenditures (in billions)
Hurricane Harvey	5.201	3.9
Hurricane Irma	3.21	2.212
Hurricane Maria	12.816	6.31
California Wildfires 2017	1.406	0.816

Accessible Data for Figure 16: Actual and Projected Disaster Relief Fund Obligations For 2017 Hurricanes and California Wildfires, By Program and Disaster

Hurricane Harvey		Hurricane Irma		Hurricane Maria		California wildfires	
Percentage	Obligations (dollars in millions)	Percentage	Obligations (dollars in millions)	Percentage	Obligations (dollars in millions)	Percentage	Obligations (dollars in millions)
47	2969	32	1371	17	2966	4	
4	264	12	503	30	5233	60	1031
20	1269	24	1039	33	5800	34	586
28	1806	31	1342	17	3040	3	48
1	43	2	68	2	380	0	0

Accessible Data for Figure 17: Federal Government Response Activity and Obligations through Mission Assignments for Each 2017 Disaster, as of January 2018

Event	Mission assignment obligations
Harvey (Texas)	554,065
Irma (Continental US)	692,899
Irma and Maria (Territories)	5,589,790
California Wildfires	1,010,010

Total number and top five agencies executing mission assignments

Harvey (Texas)		Irma (Continental U.S.)		Irma and Maria (territories		California wildfires	
Mission assigments	164	Mission Assignememts	212	Mission Assignememts	1093	Mission Assignememts	1093
U.S. Army Corps of Engineers	23%	U.S. Army Corps of Engineers	25%	Department of Defense	28%	U.S. Army Corps of Engineers	20%
Department of Defense	21%	Department of Defense	15%	U.S. Army Corps of Engineers	9%	Department of Defense	9%
Department of Health and Human Services	12%	U.S. Coast Guard	7%	Department of Homeland Security	7%	Department of Transportation	9%

Harvey (Texas)		Irma (Continental U.S.)		Irma and Maria (territories		California wildfires	
U.S. Coast Guard	7%	Department of Homeland Security	6%	U.S. Coast Guard	4%	Environmental Protection Agency	9%
Environmental Protection Agency	4%	Corporation for National and Community Service	5%	Department of Health and Human Services	4%	U.S. Forest Service	9%

Accessible Data for Figure 18: Contract Obligations in Support of Hurricanes Harvey, Irma, and Maria Response Efforts, by Agency, through January 31, 2018

Category	Percentage	Dollars
Deparment of Homeland Security (DHS)-Federal Emergency Management Agency	54	3.4 billion
Department of Defense (DOD)-U.S. Army Corps of Engineers	32	2.0 billion
All other DOD agencies	7	462.4 million
All other DHS agencies	2	144.4 million
All other agencies	4	222.1 million

Accessible Data for Figure 19: Top Five Product Groups in Terms of Contract Obligations through January 31, 2018, and Proportion of Obligations by Hurricane

Category	Harvey (dollars in millions)	Irma (dollas in millions)	Maria (dollars in millions
Food and beverage products	190	98	522
Prefabricated structures	279	0	1
Miscellaneous electricity and power Equipment	0.158	0.252	221
Miscellaneous construction materials	1.1	14	137
Water transport vessels and equipment	0.0182	25	126

Accessible Data for Figure 20: Top Five Service Groups in Terms of Contract Obligations through January 31, 2018, and Proportion of Obligations by Hurricane

Category	Harvey (dollars in millions)	Irma (dollars in millions)	Maria (dollars in millions)
Repair or alteration of structures	54	66	1009
Professional support	96	76	223
Inspection	17	155	215
Management support	73	111	144
Installation of equipment	7	13	296

Accessible Data for Figure 25: Total Number of Applicants and Funds Awarded through FEMA's Individuals and Households Program by 2017 Hurricane or Wildfire, as of February 28, 2018

Number of approved Individual Assistance applications (in thousands)

Event	Number of approved Individual Assistance applications (in thousands)
Harvey	371
Irma FL/GA	772
U.S. Virgin Islands	19
Puerto Rico	439
CA wildfires	4

Approved funds for Individual Assistance Program (dollars in millions)

Event	Housing assistance	Other needs assistance
Harvey	1185.05	379.862
Irma FL/GA	685.459	305.304
U.S. Virgin Islands	48.4744	211.842
Puerto Rico	579.542	479.877
CA wildfires	9.37886	6.01333

Accessible Data for Figure 28: Public Assistance Obligations for Emergency and Permanent Work for Each of the 2017 Disasters, as of February 2018

Event	Emergency work	Permanent work
Harvey Total	561,658,430	758,800
Irma (FL/GA) Total	4,271,560	44,787
US Virgin Islands Total	251,619,292	1,033,729
Puerto Rico Total	541,062,972	
CA Wildfires Total	208,830,257	203,708

Accessible Data for Figure 33: DOD Mission Assignment and Contract Activity for Four 2017 Disasters

Number and amount of obligations for DOD mission assignments

Event	Number of DOD mission assigments	Obligations)in millions)	Percentage of disasters' mission assignments assigned to DOD
Harvey (Texas)	76	271.766	46
Irma (Continental US)	89	362.534	42
Irma and Maria (Territories)	449	2060.43	41
California Wildfires	13	0.995	28

Value of DOD contracts in response to the hurricanes

Event	Obligations (in millions
Hurricane Harvey 2017	178.245
Hurricane Irma 2017	152.977
Hurricane Maria 2017	2132.13