



Disaster Relief Fund: FY 2020 Funding Requirements

May 28, 2019

Fiscal Year 2019 Report to Congress



**Homeland
Security**

Federal Emergency Management Agency

Message from the Acting Administrator

May 28, 2019

I am pleased to present the following, "Disaster Relief Fund: FY 2020 Funding Requirements," which has been prepared by the Federal Emergency Management Agency (FEMA).

This document has been compiled pursuant to language set forth in the Fiscal Year (FY) 2019 Department of Homeland Security Appropriations Act (P.L. 116-6) and accompanying Senate Report 115-283.

Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

The Honorable Lucille Roybal-Allard
Chairwoman, House Appropriations Subcommittee on Homeland Security

The Honorable Chuck Fleischmann
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable Shelley Moore Capito
Chairman, Senate Appropriations Subcommittee on Homeland Security

The Honorable Jon Tester
Ranking Member, Senate Appropriations Subcommittee on Homeland Security

Inquiries relating to this report may be directed to FEMA's Congressional Affairs Division at (202) 646-4500.

Sincerely,



Pete Gaynor
Acting Administrator
Federal Emergency Management Agency





Disaster Relief Fund: FY 2020 Funding Requirements

Table of Contents

I.	Legislative Language.....	1
II.	Background.....	3
III.	Assumptions.....	4
IV.	FY 2020 DRF Funding Requirements.....	6
V.	Specific Estimates.....	7
	A. Funding for Major Disasters.....	7
	B. Catastrophic Events.....	7
	C. Noncatastrophic Major Disaster Estimate.....	8
	D. Base Funding Estimates.....	8
	E. Prior-Year Carryover.....	11
	F. Future-Year Carryover.....	11
	G. Recoveries.....	11
VI.	Appendices.....	12
	Appendix A: DRF Catastrophic Event Obligations and Estimates Delineated by Event and State (\$ in millions).....	12
	Appendix B: Abbreviations.....	17

I. Legislative Language

This document has been compiled pursuant to language set forth in the Fiscal Year (FY) 2019 Department of Homeland Security (DHS) Appropriations Act (P.L. 116-6) and accompanying Senate Report 115-283.

P.L. 116-6 states:

SEC. 306. The reporting requirements in paragraphs (1) and (2) under the heading “Federal Emergency Management Agency—Disaster Relief Fund” in the Department of Homeland Security Appropriations Act, 2015 (Public Law 114-4) shall be applied in fiscal year 2019 with respect to budget year 2020 and current fiscal year 2019, respectively—

- (1) in paragraph (1) by substituting “fiscal year 2020” for “fiscal year 2016”; and
- (2) in paragraph (2) by inserting “business” after “fifth”.

Senate Report 115-283 states:

The recommendation continues to include bill language regarding the monthly spending reporting requirements set forth in Public Law 144-4.

P.L. 114-4 (referenced in P.L. 116-6 and Senate Report 115-283) states:

Provided, That the Administrator of the Federal Emergency Management Agency shall submit to the Committees on Appropriations of the Senate and the House of Representatives the following reports, including a specific description of the methodology and the source data used in developing such reports:

- (1) an estimate of the following amounts shall be submitted for the budget year at the time that the President's budget proposal for fiscal year 2016 [2020] is submitted pursuant to section 1105(a) of title 31, United States Code:
 - (A) the unobligated balance of funds to be carried over from the prior fiscal year to the budget year;
 - (B) the unobligated balance of funds to be carried over from the budget year to the budget year plus 1;
 - (C) the amount of obligations for non-catastrophic events for the budget year;
 - (D) the amount of obligations for the budget year for catastrophic events delineated by event and by State;
 - (E) the total amount that has been previously obligated or will be required for catastrophic events delineated by event and by State for all prior years, the current year, the budget year, the budget year plus 1, the budget year plus 2, and the budget year plus 3 and beyond;

- (F) the amount of previously obligated funds that will be recovered for the budget year;
- (G) the amount that will be required for obligations for emergencies, as described in section 102(1) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122(1)), major disasters, as described in section 102(2) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122(2)), fire management assistance grants, as described in section 420 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5187), surge activities, and disaster readiness and support activities; and
- (H) the amount required for activities not covered under section 251(b)(2)(D)(iii) of the Balanced Budget and Emergency Deficit Control Act of 1985 (2 U.S.C. 901(b)(2)(D)(iii); Public Law 99-177)...

II. Background

The Federal Emergency Management Agency (FEMA), pursuant to P.L. 116-6, is providing this report on the Disaster Relief Fund (DRF) budget requirements. Specifically, the reporting requirements include:

- The amount that will be required for obligations for emergencies, as defined in Section 102(1) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122 (1)); for major disasters, as defined in Section 102(2) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122 (2)); for fire management assistance grants, as defined in Section 420 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5187); for surge activities; and for disaster readiness and support activities;
- The amount that will be obligated for catastrophic events;
- The amount that will be obligated for noncatastrophic disasters;
- The amount that will be required for activities not covered under Section 251(b)(2)(D)(iii) of the Balanced Budget and Emergency Deficit Control Act of 1985 (2 U.S.C. 901(b)(2)(D)(iii); P.L. 99-177;
- The unobligated balance of funds in the DRF that has been carried over from the prior fiscal years;
- The unobligated balance of funds in the DRF that will be carried over in the next fiscal year;
- The amount of previously obligated funds that will be recovered for the budget year; and,
- The amount of funds that previously were obligated or will be required for catastrophic events, delineated by event and state for all prior years, the current year, the budget year plus one, the budget year plus two, and the budget year plus three.

III. Assumptions

Providing cost estimates for disaster-related events that, in some cases, have yet to occur can be complex and imprecise, given various factors throughout the fiscal year that may alter the estimates—total amount, category of expense, and/or timing of the obligation could change. To that end, several assumptions, listed below, should be considered with respect to the cost estimates presented.

1. The estimates assume that no new catastrophic events will occur during the budget year. FEMA defines a catastrophic event as a disaster or a grouping of disasters (i.e., a disaster event) resulting in a total projected cost to the Federal Government in excess of \$500 million. As in prior years, the budget assumes that future catastrophic events during the budget year will be funded separately with emergency supplemental appropriations.
2. Estimates for catastrophic events that already have occurred are derived from bottom-up cost estimates obtained from FEMA staff working with state and local governments to support disaster relief. Given this approach, and given that the spending plans typically do not go beyond 1 fiscal year, estimates for FY 2020 and beyond are based primarily on available cost estimate information. Further, the actual timing of the obligations is subject to the required clearance and approval processes.
3. FEMA defines a noncatastrophic event as a major disaster declaration that is projected to cost the Federal Government less than \$500 million. Estimates for noncatastrophic disasters are based on a rolling 10-year average of prior-year noncatastrophic disaster obligations. The estimates assume that the noncatastrophic spending in the budget year holds to this average. The average is updated at the beginning of each fiscal year after final closeout of the accounting system.
4. The amount of funds that can be expected to be recovered in a given year depends on several factors, including availability of resources to close out contracts and grants, active participation from other Federal agencies in validating and closing out mission assignment (MA) balances, and obligation reviews and adjustments during the fiscal year that reduce future recovery of funds. The recovery estimate reflects FEMA's current analysis of existing open obligations, historical trends, prior-year aggressive recovery efforts, and the impact of enhanced funds management and controls (e.g., Strategic Funds Management, timelier review, closeout of MAs during the year of execution, etc.). The estimate also assumes that funds being recovered from 2017 Hurricanes Harvey, Irma, and Maria will level off by the end of FY 2019. Although some variability is inherent, the quantity of recovered funds is expected to decline because of improved cost estimation and funds management. Additionally, provisions in the 2011 Budget Control Act require that recovery of funds obligated post-2012 be posted to the DRF category (i.e., Major Disaster Relief or Base) from which the original obligation was made, which will result in fewer funds being applied to the Base.
5. The estimates assume that no major policy or legislative changes will be enacted during the budget year that could affect projections significantly. Policy changes or new

legislative mandates that are enacted without associated resource considerations could affect the estimates. For example, the impact to the DRF from new authorities granted within the Sandy Recovery Improvement Act of 2013 (part of the Disaster Relief Appropriations Act, 2013 (P.L. 113-2)) resulted in additional obligations of more than \$1 billion in FY 2016 for Hurricane Katrina-capped public assistance grants. Other examples include presidentially authorized cost share adjustments and costs related to the implementation of the Disaster Recovery Reform Act, or DRRA (P.L. 115-254).

6. Typically, the estimates for major disasters are derived independently of projections for estimated carryover DRF balances; however, the FY 2020 request includes estimated carryover from supplemental balances for Hurricanes Harvey, Irma, and Maria as well as carryover from funds appropriated in FY 2019 above the request.
7. Pursuant to Section 1234 of P.L. 115-254, the estimate includes a 6-percent set-aside for predisaster mitigation (PDM). The set-aside assumes that the 6 percent will not exceed the historical 5-year average used to calculate the requirement.

IV. FY 2020 DRF Funding Requirements

Table 1 summarizes the estimated DRF funding requirements for FY 2020. In consideration of the assumptions listed in Section III of this report, a number of factors can cause significant variability in disaster spending in a given year.

An obvious issue with forecasting disaster activity and related costs stems from the inability to predict weather patterns, geologic events, incidents of terrorism, and other DRF-related funding scenarios during the long term, from one budget year to the next. A secondary issue arises when one of these events occurs and resources are diverted from existing recovery and mitigation efforts to address these new, urgent, and immediate concerns. Thus, predictable spending patterns for ongoing recovery efforts may change as more urgent needs take precedence. Another overarching issue in predicting DRF budget needs stems from the variability (scope, impact, location, type of requirements, state and local capabilities, etc.) inherent in disaster requirements. For example, projections included for past catastrophic events rely on estimates provided by regional FEMA staff working closely with states and localities based on assessment of the above factors.

As depicted in Table 1 below, a reserve of \$1 billion is included to ensure that FEMA maintains the ability to fund initial response operations related to a new catastrophic event. Because of the timing of the enactment of the FY 2019 appropriations bill, which provided \$5.348 billion above the FY 2019 President’s Budget, FEMA estimates that \$14.55 billion will provide sufficient resources for DRF requirements in FY 2020.

Table 1. DRF FY 2020 Funding Requirements

	Base	Majors	Total
Major Declarations			
Catastrophics	\$ -	\$ 1,603	\$ 1,603
Harvey, Irma, Maria	-	22,279	22,279
Noncatastrophic 10-yr. Historical Average	-	2,266	2,266
FY19 Appropriations Above Request		(5,348)	(5,348)
Estimated Harvey, Irma, Maria Supplemental Balance		(7,730)	(7,730)
Subtotal	-	13,070	13,070
Base			
EM,FM,SU	223	-	223
DRS	252	-	252
Subtotal	475	-	475
Rescission ⁽¹⁾	(250)	-	(250)
Recoveries	250	(300)	(50)
Reserve	-	1,000	1,000
6% Set-aside for PDM per DRRRA ⁽²⁾	-	305	305
Subtotal	-	1,005	1,005
Total	\$ 475	\$ 14,075	\$ 14,550

1) Base rescission is offset by FY 2020 recoveries.

2) Pursuant to section 1234 of P.L. 115-254.

V. Specific Estimates

A. Funding for Major Disasters

In estimating the funding for major disasters, FEMA considers the projected FY 2020 obligations for previously declared catastrophic events (\$23.882 billion) and FY 2020 estimates for the noncatastrophic major disaster activities (\$2.266 billion). Also included is the estimated carryover balance from supplemental funding for Hurricanes Harvey, Irma, and Maria (\$7.73 billion). As shown in Table 2 below, the total FY 2020 estimated requirement for major disasters is \$13.07 billion.

B. Catastrophic Events

The FY 2020 requirement of \$23.882 billion for previously declared catastrophic events is derived from a bottom-up budgeting process using spending plans prepared by regional FEMA staff working with affected states and localities. It also considers estimated carryover from supplemental appropriations for Hurricanes Harvey, Irma, and Maria.

Provided in Appendix A are details on the FY 2020 estimated obligations for the following events: 2005 hurricane season (Hurricanes Katrina, Rita, and Wilma); Hurricanes Ike, Gustav, Irene, Isaac, Sandy, and Matthew; 2008 Midwest floods; 2010 Tennessee floods; 2011 spring floods; 2013 Colorado flood; 2016 Louisiana floods; 2011 spring tornadoes; Tropical Storm Lee; 2017 California wildfires; 2017 hurricane season (Hurricanes Harvey, Irma, and Maria); and Hurricane Florence. These estimates were devised using the most current information available and assume that no new catastrophic events will occur during the budget year. Additionally, detailed cost estimates for recently declared Hurricane Michael, Typhoon Yutu, and 2018 California wildfires were not available at the time of the request and therefore are not detailed in this report. It is estimated that these new catastrophic events will obligate roughly \$1 billion in FY 2020.

The detailed estimates presented in the appendix include total obligations through FY 2018, projected obligations for FY 2019 and FY 2020, and an estimate for obligations from FY 2021 through FY 2023.

Table 2. FY 2020 Estimated Obligations for Major Disasters

Major Declarations	Estimated Funding Requirement (\$ in millions)
Catastrophic	\$ 23,882
Noncatastrophic	2,266
FY 2019 Appropriations Above Request	(5,348)
Estimated Harvey, Irma, Maria Supplemental Balance	(7,730)
Total	\$ 13,070

C. Noncatastrophic Major Disaster Estimate

The projected FY 2020 obligations for noncatastrophic major disasters were determined by averaging the past 10 years' obligations. The average was computed with no outliers (i.e., no exclusion of high or low values) because all data fall safely within two standard deviations of the mean. As detailed in Table 3, the inflation-adjusted 10-year average is calculated to be \$2.266 billion.

Upon thorough analysis of prior-year obligations, it was discovered that some catastrophic disaster obligations had been miscategorized. These miscategorizations have since been adjusted out of the prior-year amounts.

Table 3. Historical Obligations - Noncatastrophic Major Disasters

Noncatastrophic Obligations (\$ in millions)		
<u>Fiscal Year</u>		
2009	\$	3,165
2010		3,118
2011		2,195
2012		1,971
2013		1,454
2014		1,638
2015		2,052
2016		3,142
2017		1,714
2018		2,215
Grand Total		22,664
10-Year Average		2,266

D. Base Funding Estimates

The DRF Base is used to fund emergency declarations (EM), fire management assistance grants (FMAG), predeclaration surge activities (SU), and programmatic readiness and preparedness activities authorized under the Stafford Act. The FY 2020 DRF Base request is \$497 million, which includes \$245 million for EM, FMAG, and SU, and includes \$252 million for the Disaster Readiness and Support (DRS) account. Table 4 provides a historical depiction of the Base category funding for EM, FMAG, and SU activities. Because funding for these activities can be difficult to plan for, the 10-year average of \$245 million is the basis for the FY 2020 request. The difference between the FY 2020 Base Requirement and the funding request in Table 1 is the \$22 million facility rent transfer to O&S from the Base 10-year average (i.e. EM, FM, and SU).

Table 4. Historical Obligations - Base Activities (EM, FMAG, SU)

All Events							
Fiscal Year	EM		FMAG		SU		Total
2009	\$	125	\$	80	\$	30	\$ 235
2010		49		127		33	209
2011		121		33		95	249
2012		277		55		38	370
2013		57		118		23	198
2014		18		110		8	136
2015		2		134		12	148
2016		26		99		11	136
2017		98		60		160	318
2018		94		264		94	452
Grand Total		867		1,080		504	2,451
10-Year Average	\$	87	\$	108	\$	50	\$ 245

The difference between the FY 2020 Base Requirement and the funding request in Table 1 is the \$22M facility rent transfer to Operations & Support.

Conversely, the DRS category encompasses spending that is controlled through a more traditional annual budgeting process; therefore, the FY 2020 budget estimate for this category is applied in lieu of the 10-year average. The average for the EM, FMAG, and SU activities, plus the budget requirements for the DRS category, make up the total \$497 million FY 2020 Base requirement as shown in Table 5.

Table 5. Base Estimated Funding Requirements

Base Categories	Estimated Funding Requirement (\$ in millions)
EM	\$ 87
FMAG	108
SU	50
DRS	252
Total*	\$ 497

DRS funding enables FEMA to be more proactive and to provide a robust readiness posture to respond to large-scale, complex, presidentially declared major disasters instead of waiting for disasters to occur and then reacting with more costly and less efficient response actions. This funding allows FEMA to provide timely disaster response, responsive customer service, and cost-effective program oversight and delivery. Cost variability in the DRS account is driven by the severity of annual disasters, which determines the level of workforce response activities. Typically, the more active the disaster season, the more these costs shift to the Major Disasters portion of the DRF. Conversely, a less active disaster season results in greater obligations in the DRS, which is supported by the DRF Base. The FY 2020 DRS requirement of \$252 million is based on FEMA’s detailed spend plans using a zero-based budget methodology. The DRS funds key activities and initiatives, such as:

- Salaries and expenses for Stafford Act employees (SAE) while not deployed to a specific disaster;
- Qualifications, training, and equipment for SAEs;
- Stockpiling and maintenance of pre-positioned disaster assets and commodities;
- Support contracts that enable FEMA to mobilize response and recovery capacities as quickly as needed; and
- Non-enterprise information technology systems that directly support disaster response and recovery activities.

FEMA has increased the transparency and budgetary discipline of the DRS account using detailed annual spend plans and program reviews. DRS readiness categories (RC) also have been established for added visibility in reporting cost projections and obligations. DRS RCs include: (1) cadre operational readiness and deployability structure; (2) readiness support contracts and supplies; and (3) information technology support. FEMA measures operational readiness annually through Government Performance and Results Act reporting, which demonstrates cadre preparedness across staffing, equipping, and training metrics. In addition, the introduction of the RC structure enhances the justification of resources needed to support cadre operational readiness and response capabilities. This approach helps to measure FEMA’s current state of readiness and identifies potential weaknesses and needs. As a result, FEMA is better informed on how to maintain its critical disaster support activities and infrastructure, ensuring the timely delivery of disaster assistance (e.g., reliable communications, an effective intake process, an efficient delivery system for disaster commodities, and improved oversight of disaster aid through FEMA’s technical assistance contractors). Table 6 depicts the FY 2020 DRS funding requirement of \$252 million.

Table 6. Readiness Category Reporting Structure
DRS Budget Estimates by Readiness Category

Readiness Category	Allowable Costs (\$ in millions)	FY 2020 Requirement
Cadre Operational Readiness and Deployability		\$ 119
Disaster Employee Staffing	Nondeployed salaries & benefits; FEMA Corps contract for staff; hiring costs (i.e., recruiting, background investigations, SAE onboarding)	55
Disaster Employee Training	Course/exercise development and delivery costs, travel for training, SAE onboarding, FEMA Qualification System, venue for training	43
Disaster Employee Equipping	Uniforms, equipment, telecom (services, devices, lines of service, wireless, and satellite), replacement and repair costs, and supplies for disaster operations and staff	21
Readiness Support Contracts and Supplies		\$ 62
Readiness Support Contracts and Interagency Agreements (IAA)	IAs, memoranda of agreement, memoranda of understanding, and contracts necessary for technical assistance/readiness support allowing for quick mobilization	49
Stockpiling	Storage, maintenance, and delivery of disaster response goods and supplies. Purchase and storage of perishable disaster response supplies and consumables. Purchase and storage of nonperishable disaster response supplies	5
Disaster Housing Program	Temporary housing units and assistance	8
Information Technology Support		\$ 71
Information Technology (IT) Systems	Disaster IT, technical support, infrastructure costs, lifecycle system maintenance costs, cybersecurity, and any other operations and maintenance not specified	71
TOTAL DRS		\$ 252

E. Prior-Year Carryover

A number of factors influence the actual DRF carryover balance. Key factors that may change the FY 2019 ending balance include the actual FY 2019 obligations and recoveries, actual transfers, and the 6-percent set-aside amount for PDM, per P.L. 115-254. As of the DRF monthly congressional report for the month ending February 28, 2019, FEMA estimated that the DRF will end FY 2019 with a balance of \$17.328 billion, which includes approximately \$7.73 billion from supplemental appropriations received for the 2017 catastrophic Hurricanes Harvey, Irma, and Maria. This estimate is a point-in-time estimate that is expected to change before the end of FY 2019.

F. Future-Year Carryover

The projected carryover into FY 2021 is dependent on the FY 2020 carryover, FY 2020 appropriations, and FY 2020 obligations.

G. Recoveries

In FY 2020, it is estimated that recoveries will total approximately \$550 million. Recoveries totaled \$2.446 billion in FY 2018 and are expected to exceed \$1.5 billion by the end of FY 2019. The increase in recoveries is primarily because of mission assignments associated with response efforts to Hurricanes Harvey, Irma, and Maria. FEMA continues the reconciliation process associated with closing these mission assignments and expects recoveries to level out by FY 2020.

VI. Appendices

Appendix A: DRF Catastrophic Event Obligations and Estimates Delineated by Event and State (\$ in millions)

Event/DR	Obligations Through FY 2018	FY 2019 Actuals/ Estimated	FY 2020 Estimated	FY 2021 Through FY 2023 Estimated	Total
Gustav					
1786-LA	\$ 1,672	\$ 25	\$ 33	\$ 10	\$ 1,740
1789-AL	10	-	-	-	10
1793-AR	6	-	-	-	6
1794-MS	40	-	-	-	40
1806-FL	6	-	-	-	6
Total	1,734	25	33	10	1,802
Ike					
1791-TX	4,408	18	26	11	4,463
1792-LA	369	4	7	3	383
1797-AL	8	-	-	-	8
1802-KY	24	-	-	-	24
1804-AR	3	-	-	-	3
1805-OH	56	-	-	-	56
Total	4,868	22	33	14	4,937
Katrina Rita Wilma					
1602-FL	233	-	-	-	233
1603-LA	32,640	175	136	24	32,975
1604-MS	10,100	5	16	7	10,128
1605-AL	1,041	-	-	-	1,041
1606-TX	1,877	1	-	-	1,878
1607-LA	1,909	15	47	20	1,991
1609-FL	2,566	1	31	13	2,611
Total	50,366	197	230	64	50,857

	Obligations Through FY 2018	FY 2019 Actuals/ Estimated	FY 2020 Estimated	FY 2021 Through FY 2023 Estimated	Total
Event/DR					
Midwest Floods					
1760-MO	3	-	-	-	3
1763-IA	1,872	-	-	-	1,872
1765-NE	2	-	-	-	2
1766-IN	213	-	-	-	213
1768-WI	156	-	-	-	156
1770-NE	48	-	-	-	48
1771-IL	93	-	-	-	93
1772-MN	9	-	-	-	9
1773-MO	55	-	-	-	55
1774-SD	8	-	-	-	8
1775-OK	11	-	-	-	11
1776-KS	64	-	-	-	64
1777-MI	18	-	-	-	18
Total	2,552	-	-	-	2,552
TN Floods					
1909-TN	549	7	14	6	576
Total	549	7	14	6	576
2011 Spring Tornadoes					
1971-AL	705	-	2	1	708
1972-MS	67	-	-	5	72
1973-GA	44	-	1	-	45
1974-TN	92	-	1	-	93
1975-AR	104	-	2	1	107
1976-KY	60	3	1	-	64
1980-MO	512	-	2	1	515
Total	1,584	3	9	8	1,604
2011 Spring Floods					
1981-ND	639	4	1	-	644
1982-MN	27	-	-	-	27
1983-MS	36	-	-	-	36
1984-SD	83	-	-	-	83
Total	785	4	1	-	790

	Obligations Through FY 2018	FY 2019 Actuals/ Estimated	FY 2020 Estimated	FY 2021 Through FY 2023 Estimated	Total
Event/DR					
Irene					
4017-PR	139	2	-	-	141
4019-NC	194	-	4	2	200
4020-NY	899	15	17	8	939
4021-NJ	396	4	7	3	410
4022-VT	326	4	2	1	333
4023-CT	75	-	-	-	75
4024-VA	73	-	2	-	75
4025-PA	99	-	2	-	101
4026-NH	27	-	-	-	27
4027-RI	11	-	1	-	12
4028-MA	51	2	1	-	54
4032-ME	3	-	-	-	3
4034-MD	25	-	-	-	25
4036-DC	3	-	-	-	3
4037-DE	3	-	-	-	3
Total	2,324	27	36	14	2,401
Lee					
4030-PA	374	-	5	2	381
4031-NY	452	10	5	2	469
4038-MD	15	-	-	-	15
4039-NJ	6	-	-	-	6
4041-LA	7	-	-	-	7
4045-VA	7	-	-	-	7
Total	861	10	10	4	885
Isaac					
4080-LA	702	6	12	5	725
4081-MS	90	1	3	1	95
4082-AL	10	-	-	-	10
4084-FL	33	2	1	-	36
Total	835	9	16	6	866

	Obligations Through FY 2018	FY 2019 Actuals/ Estimated	FY 2020 Estimated	FY 2021 Through FY 2023 Estimated	Total
Event/DR					
Sandy					
4085-NY	17,260	788	439	176	18,663
4086-NJ	3,296	104	7	7	3,414
4087-CT	122	-	1	1	124
4089-RI	18	-	-	-	18
4090-DE	8	-	-	-	8
4091-MD	50	-	1	-	51
4092-VA	14	-	-	-	14
4093-WV	23	-	1	-	24
4095-NH	3	-	-	-	3
4096-DC	3	-	-	-	3
4097- MA	17	-	2	2	21
4098-OH	26	-	-	-	26
4099-PA	17	-	-	-	17
Total	20,857	892	451	186	22,386
2013 Colorado Flood					
4145-CO	628	29	1	1	659
Total	628	29	1	1	659
Matthew					
4283-FL	420	87	9	8	524
4284-GA	136	13	8	9	166
4285-NC	661	26	3	5	695
4286-SC	376	23	8	8	415
4291-VA	37	5	-	-	42
Total	1,630	154	28	30	1,842
LA Floods 4277					
4277-LA	2,488	174	118	71	2,851
Total	2,488	174	118	71	2,851
CA Wildfires 2017					
4344-CA	1,461	158	123	74	1,816
Total	1,461	158	123	74	1,816

Event/DR	Obligations Through FY 2018	FY 2019 Actuals/ Estimated	FY 2020 Estimated	FY 2021 Through FY 2023 Estimated	Total
Harvey					
4332-TX	5,813	1,509	1,495	2,002	10,819
4345-LA	10	1	1	1	13
Total	5,823	1,510	1,496	2,003	10,832
Irma					
4335-VI	317	109	11	-	437
4336-PR	79	10	2	3	94
4337-FL	2,574	761	347	837	4,519
4338-GA	189	21	7	48	265
4341-FL	7	1	-	-	8
4346-SC	29	16	9	12	66
Total	3,195	918	376	900	5,389
Maria					
4339-PR	12,951	7,937	19,942	19,313	60,143
4340-VI	2,201	1,448	465	488	4,602
Total	15,152	9,385	20,407	19,801	64,745
Florence					
4393-NC	426	646	466	74	1,612
4394-SC	173	131	34	6	344
4401-VA	-	18	-	17	35
Total	599	795	500	97	1,991
Catastrophic Subtotal	118,291	14,319	23,882	23,289	179,781
<i>Adjustment for Inflation</i>	-	-	-	466	466
Grand Total	\$ 118,291	\$ 14,319	\$ 23,882	\$ 23,755	\$ 180,247

1. Obligations through FY 2018 include recoveries.
2. FY 2019 Actual/Estimated as of February 28, 2019.
3. The FY 2020 President's Budget does not include requirements for catastrophic events declared in FY 2019.

Appendix B: Abbreviations

Abbreviation:	Definition:
DHS	Department of Homeland Security
DRF	Disaster Relief Fund
DRRA	Disaster Recovery Reform Act
DRS	Disaster Readiness and Support
EM	Emergency Declaration
FEMA	Federal Emergency Management Agency
FMAG	Fire Management Assistance Grant
FY	Fiscal Year
IAA	Interagency Agreement
IT	Information Technology
MA	Mission Assignment
PDM	Predisaster Mitigation
RC	Readiness Category
SAE	Stafford Act Employee
SU	Surge Activity