



FLORIDA
ASSOCIATION OF
COUNTIES
All About Florida

2018 FEDERAL POLICY BRIEF

EMERGENCY MANAGEMENT: HELP FLORIDA RECOVER AND REBUILD

HURRICANE IRMA AT-A-GLANCE

The following is an excerpt taken from FAC's 2017 Hurricane Summit Program which was held in November of 2017 to review and assess the impacts of Hurricane Irma and identify a path to recovery for Florida's counties.

For more information on the data depicted in the following infographs please contact:
Eric Poole at epoole@fl-counties.com, **Casey Perkins** at Cperkins@fl-counties.com
or **Robert Brown** at Rbrown@fl-counties.com

Hurricane Irma was the most powerful Atlantic Ocean hurricane in recorded history. By multiple accounts, the storm was also directly responsible for the largest mass exodus in U.S. history, with nearly 7 million people across Florida, Georgia, and South Carolina being asked to evacuate their homes.

According to Florida's Department of Emergency Management (DEM), nearly 6.8 million Floridians evacuated their homes in the lead up to Hurricane Irma, "beating 2005's Houston-area Hurricane Rita exit by millions." Media outlets described police going door to door "telling people to leave to avoid life-threatening rains, winds, and flooding," as well as "large traffic jams on Interstates 95 and 75 and the Florida Turnpike." Additionally, the Federal Aviation Administration reported that Miami's traffic controllers handled 11,500 flights on the Thursday before the storm compared to 8,800 one week prior. As the National Weather Service outpost in Key West tweeted Friday night before Irma's landfall: "THIS IS AS REAL AS IT GETS."

Total Evacuation Orders During Hurricane Irma

13
COUNTIES
Did Not Issue
Evacuation Orders

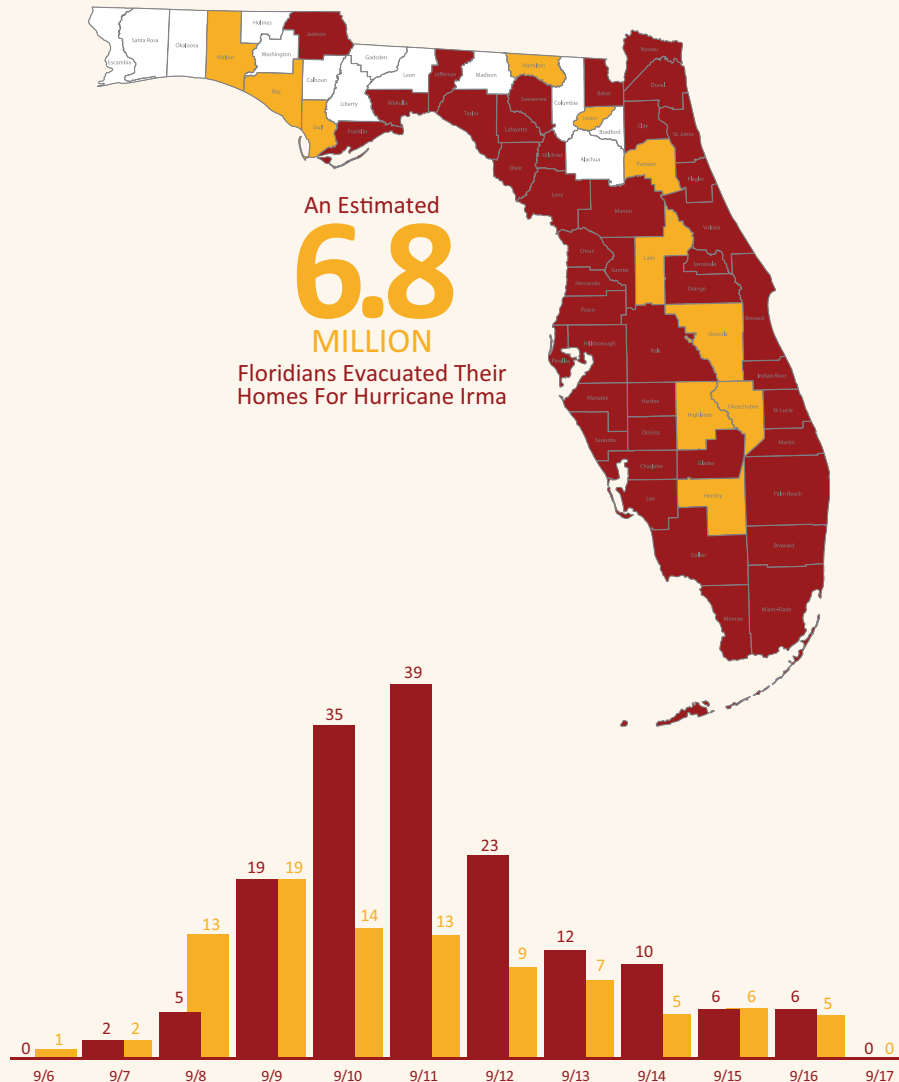
54
COUNTIES
Issued
Evacuation Orders

Data from DEM's Constellation system shows 54 of Florida's 67 counties ended up issuing evacuation orders in response to Hurricane Irma. Mandatory evacuations were ultimately issued in 42 counties, while a remaining 12 counties never went beyond issuing voluntary evacuation orders.

Hurricane Evacuation: Lessons Learned and What You Need to Know (continued)

The number of counties under evacuation orders peaked on September 11th, but declined quickly after. By September 17th, no counties remained under evacuation orders.

An Estimated 6.8 Million Floridians Evacuated Their Homes For Hurricane Irma



Mandatory and Voluntary Evacuations During Hurricane Irma

■ Mandatory Evacuated Counties ■ Voluntary Evacuated Counties

Counties are responsible for creating evacuation zones using data from both the federal and state governments, while also taking local factors into account. Counties also take the lead in issuing evacuation orders within their jurisdictions, whether this is done through the board of county commissioners or the emergency management director. While a hurricane evacuation is anything but routine, state and local emergency management officials adjusted to 10 different evacuation scenarios over the course of Irma's track.

¹Aarian Marshall. "4 Maps that Show the Gigantic Hurricane Irma Evacuation." WIRED. September 8, 2017. Available online at: www.wired.com/2017/09/4-maps-show-gigantic-hurricane-irma-evacuation/.

²Kelly Swanson. "The massive evacuation effort in South Florida has million fleeing Hurricane Irma." Vox. September 8, 2017. Available online at: www.vox.com/energy-and-environment/2017/9/8/16274106/evacuation-south-florida-millions-fleeing-hurricane-irma.

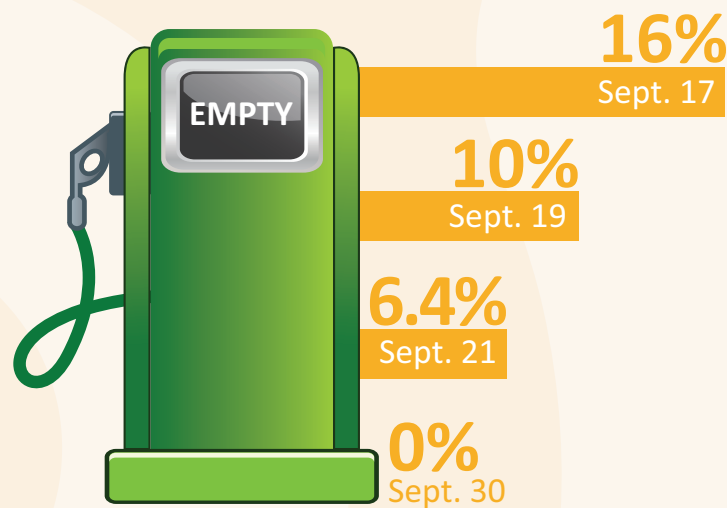
³Wired

⁴<https://twitter.com/NWSKeyWest/status/906266219304685568>.

In the immediate aftermath of Hurricane Irma, there was an estimated 6.5 days worth of fuel in Florida's ports yet that supply did not translate to Florida's counties. Many counties had fewer days of fuel, and six counties had only 1-2 days worth of fuel on the morning of September 13th.

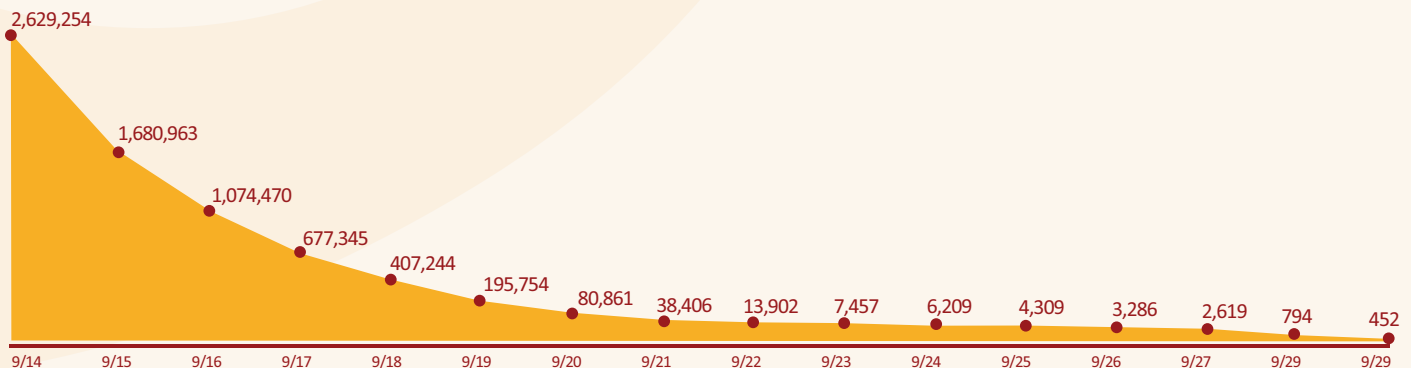
- Dixie County
- Charlotte County
- Putnam County
- Hendry County
- Sumter County
- Collier County

Additionally, 16 percent of stations across the state were without fuel as of September 14th. It took the remainder of the month to get all stations in Florida back to having fuel.



Hurricane Irma also caused one of the largest power outages in U.S. history. By the late afternoon of September 11th, 6,744,542 customer accounts out of 10,501,511 (64.22 percent) were without power across Florida Power & Light, Duke Energy, Tampa Electric, Florida Public Utilities, cooperatives, and municipal providers of power. While these numbers quickly decreased following the storm's passage, a number of counties, particularly in the southwest region of the state, continued to experience outages for between 10 to 40 percent of all customer accounts up to one week after.

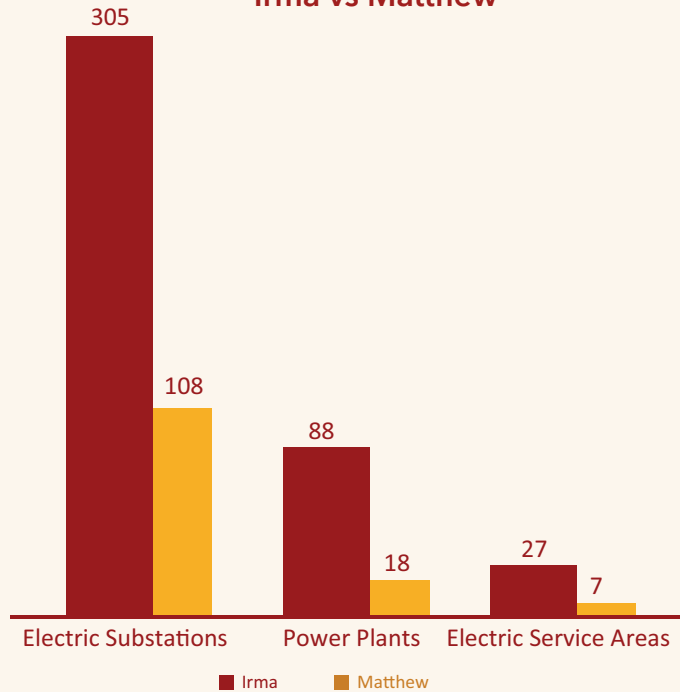
Total Number of Accounts Without Power



Compared to Hurricane Matthew in 2016, Hurricane Irma had many times more electric substations (3 times more), power plants (5 times more), and electric service areas (4 times more) within its force winds according to disaster impact models produced by the U.S. Army Corps of Engineers.

U.S. Army Corps of Engineers: Electric Substation, Power Plants and Electric Service Areas Inside Hurricane Winds Post-landfall

Irma vs Matthew



Counties That Had Public Safety Communication Outages Longer Than 24 Hours



Counties That Had Public Safety Communication Outages Shorter Than 24 Hours



Mass Notification Systems Global Market Size



Shelter from the Storm: Lessons Learned from Hurricane Irma (continued)

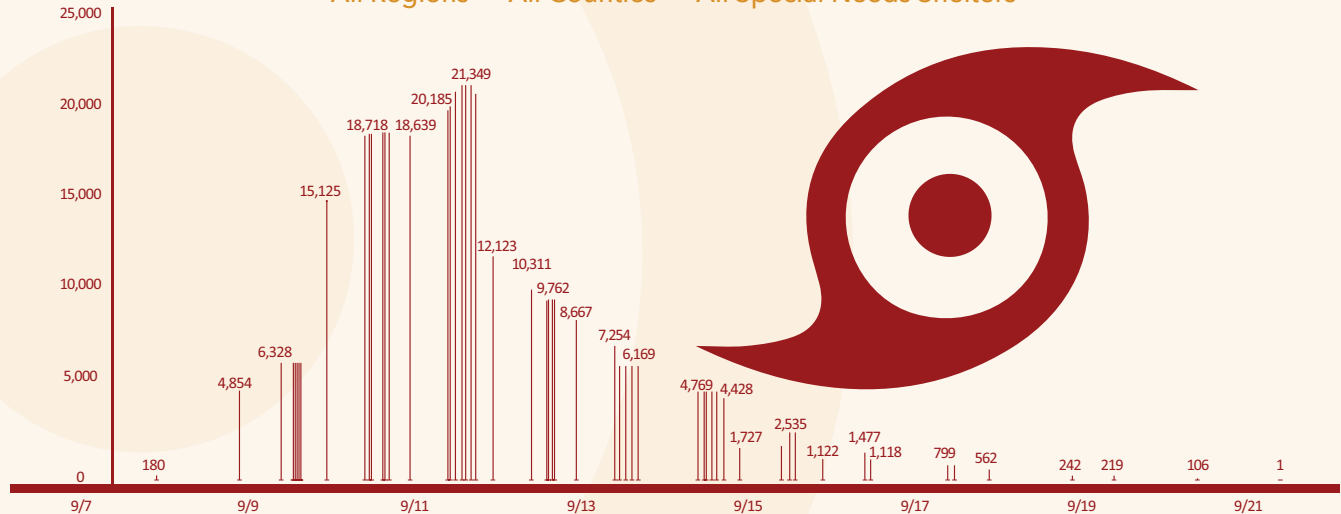
As a storm impacting virtually the entire state, Hurricane Irma reminded many that shelter space is important not just for accommodating local residents, but also evacuees from other Florida counties. Additionally, accommodating different evacuees can present different challenges, particularly when it comes to individuals with special needs. Based on reports collected from Florida's Department of Health, the total number of individuals at special needs shelters peaked at 21,364 at 3:05 p.m. on September 11th. Included in this count of 21,364 individuals were:

- 11,450 clients (including 3,405 oxygen dependent and 2,813 electric dependent)
- 5,197 caregivers
- 2,938 staff
- 1,779 family members

More than 90 special needs shelters remained open from September 10th to September 11th as Hurricane Irma was making landfall.

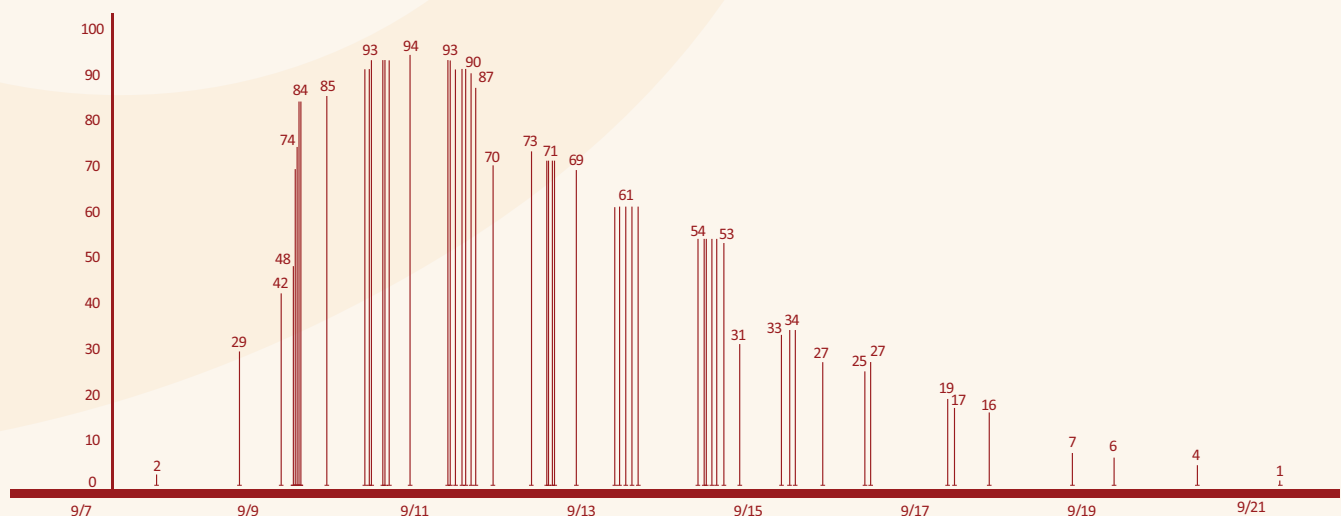
Total Individuals in Special Needs Shelters

All Regions • All Counties • All Special Needs Shelters



Total Special Needs Shelters Open

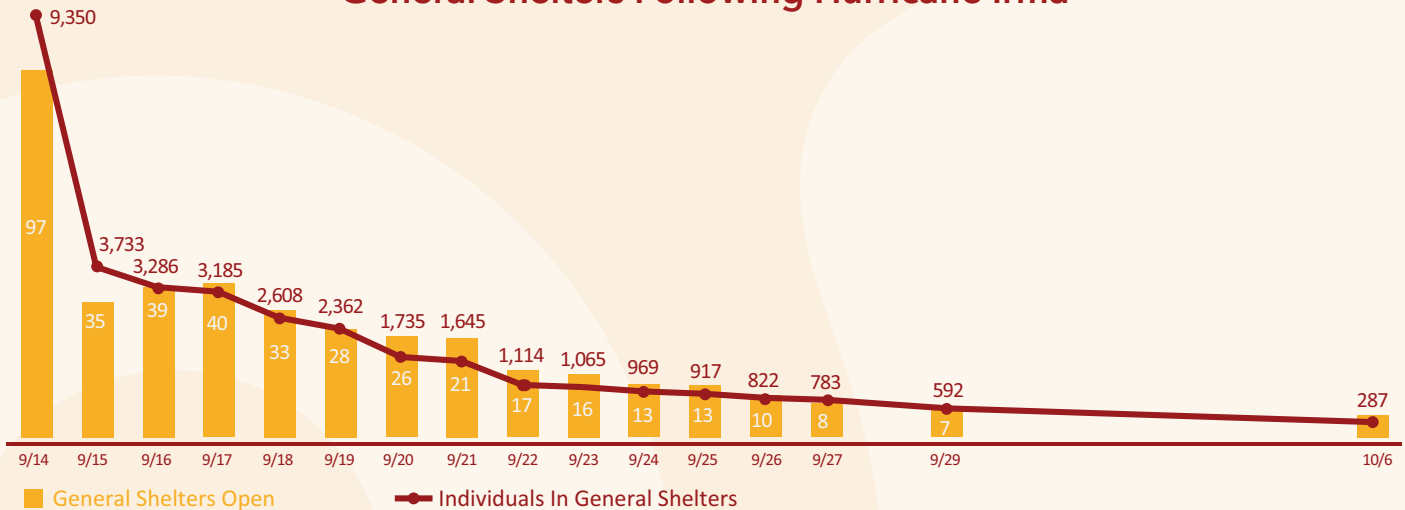
All Regions • All Counties • All Special Needs Shelters



Shelter from the Storm: Lessons Learned from Hurricane Irma (continued)

According to Florida's Department of Emergency Management (DEM), a peak population of 191,764 people stayed at more than 700 shelters throughout the state during Hurricane Irma. While the number of open shelters and individuals staying at them quickly began to fade shortly after the storm passed, a few hundred people remained at shelters well into the month of October.

General Shelters Following Hurricane Irma

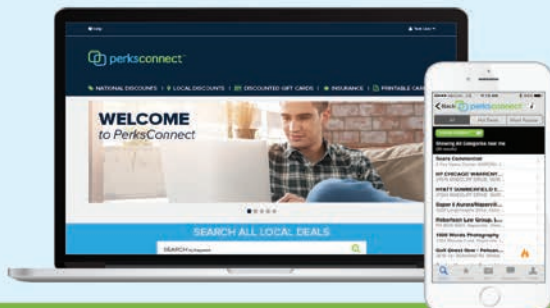


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- 350+ client organizations offer PerksConnect



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- No membership fees & no cost to your organization



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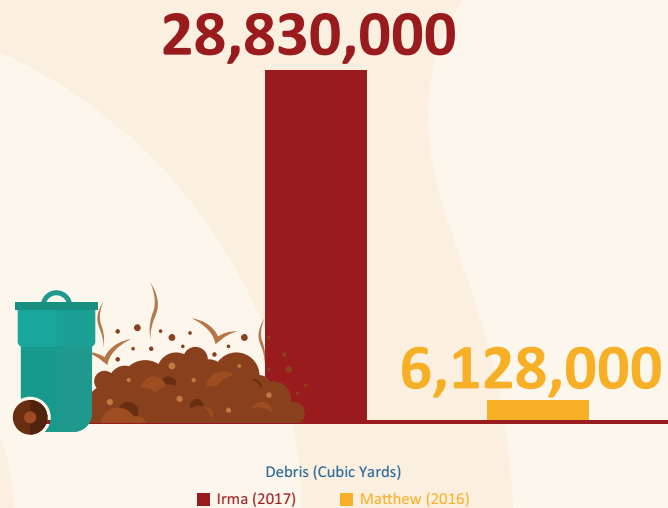
Brian Zibuda | SVP, PerksConnect
✉ bzibuda@perksgroup.net ☎ 617.448.1768

Natural Disasters and the Challenge of Debris Management (continued)

A simple comparison of post-landfall disaster impact models for both Hurricanes Irma (2017) and Matthew (2016) demonstrates the significance of the challenge presented with debris resulting from the most recent storm. The U.S. Army Corps of Engineers estimated Hurricane Irma would ultimately cause almost 29 million cubic yards of debris statewide compared to just over 6 million cubic yards of debris that would result from Hurricane Matthew.

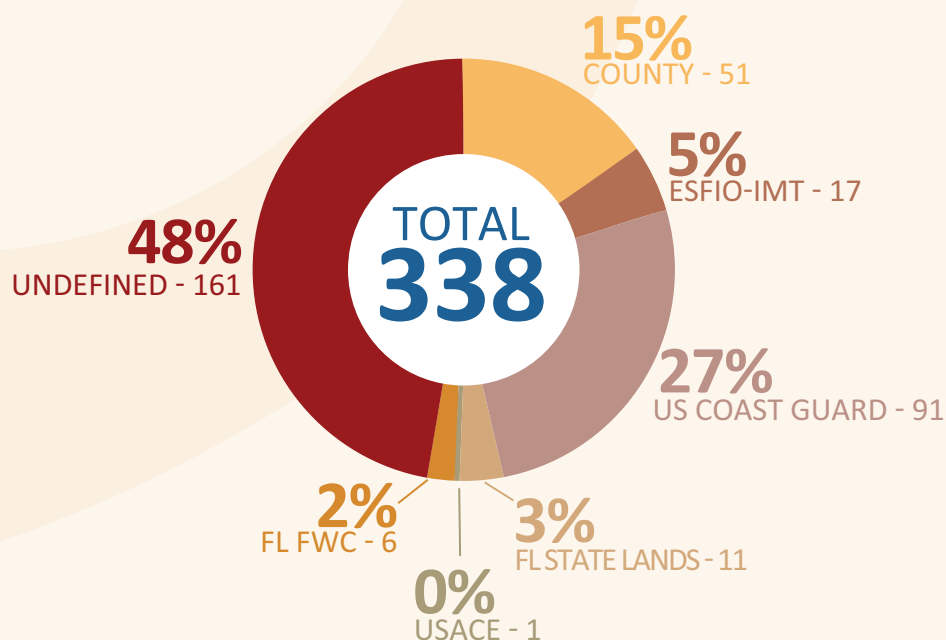
U.S. Army Corps Of Engineers: Possible Statewide Debris Post Landfall

Irma vs Matthew



For almost half of these debris reports, it remained unclear or undefined who was responsible for the debris removal. Counties were identified as being responsible for just 15 percent of all debris reports submitted to SERT.

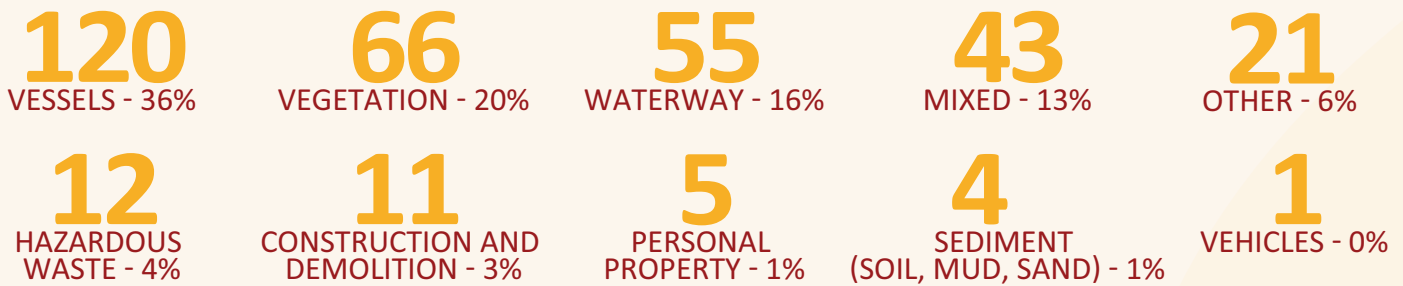
Responsibility for Debris Reports



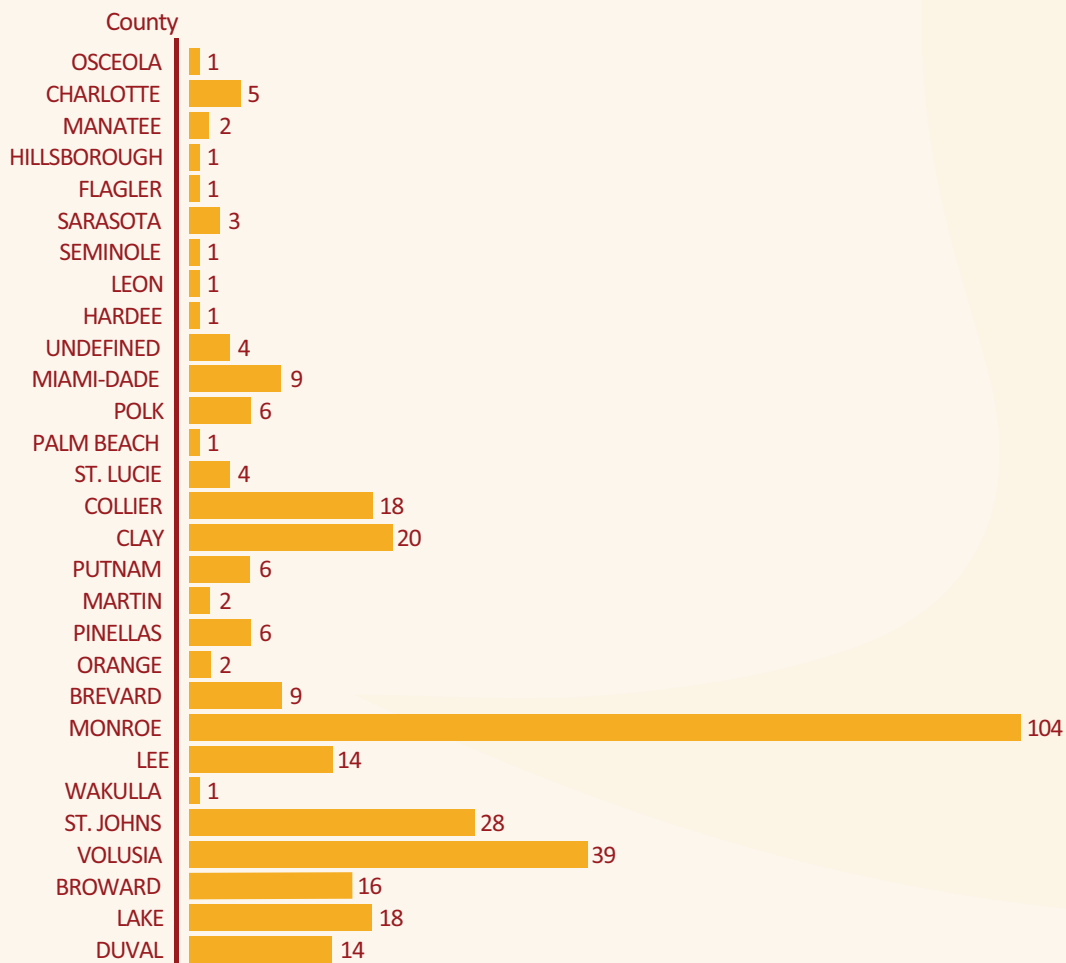
Natural Disasters and the Challenge of Debris Management (continued)

By the end of October, the total number of debris reports submitted to the State Emergency Response Team (SERT) at <http://maps.floridadisaster.org/debris> totaled 338 and covered the following types of debris:

Debris Reports Received by County



Number of Debris Reports by County





Panelist

Tony Ettore

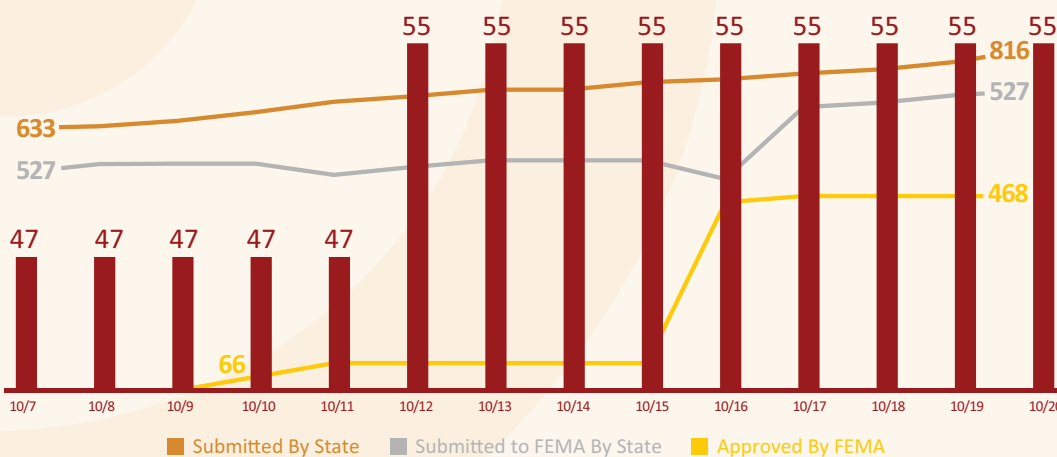
Chief Operating Officer

DSI

Mr. Tony Ettore is the Chief Operating Officer for Disaster, Strategies & Ideas Group (DSI). He is responsible for providing legal opinions to the company and its staff on all business issues, all PA and mitigation issues, and for assisting in the resolution of any insurance-related disputes. He has also submitted more than 70 Category Z appeals to FEMA, likely more than any appeals officer in the country. Prior to DSI, he served as General Counsel for the Florida Division of Emergency Management (FDEM). During that time, he not only acted as FDEM's attorney on all operational, contract, and personnel matters, but acted as attorney for the State Emergency Response Team.

With Hurricane Irma, all 67 of Florida's counties became eligible for public assistance from FEMA with respect to categories A and B, which cover debris removal and emergency protective measures.

FEMA Public Assistance: Requests Made by Florida's Counties

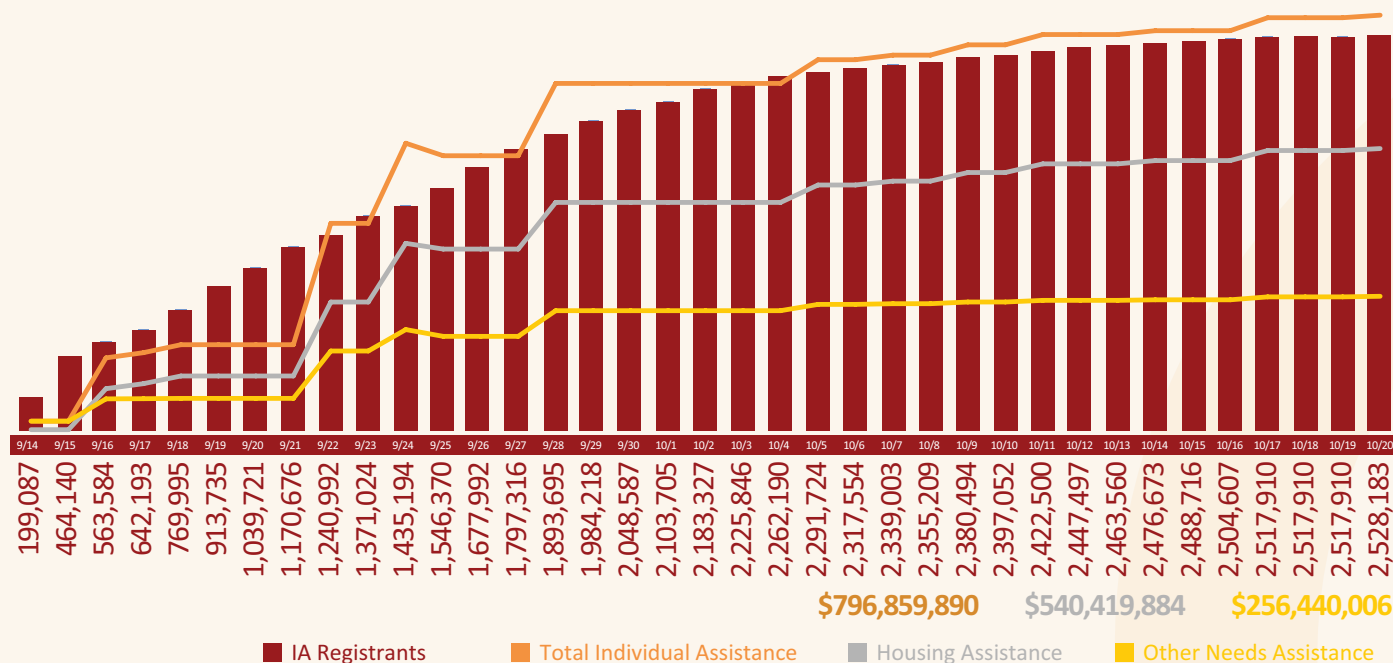


Counties eligible for public assistance in categories C-G are eligible for assistance in the following areas:

- Roads and bridges (Category C)
- Water control facilities (Category D)
- Public buildings and contents (Category E)
- Public utilities (Category F)
- Parks, recreational, and other facilities (Category G)

The deadline to apply for individual assistance from FEMA is November 24, 2017.

FEMA Individual Assistance: Total Registrations and Total Approved Amounts



Other Assistance

As of late October, the U.S. Small Business Administration had approved 5,704 low-interest loans worth more than \$210.6 million in Florida due to Hurricane Irma. Next to private insurance, this program is the primary source for long-term rebuilding of disaster-damaged property. Loans may be made to businesses, private nonprofits, homeowners, and renters. The filing deadline for property damage applications in this program is November 24th, 2017, while the deadline for economic injury is June 11th, 2018.

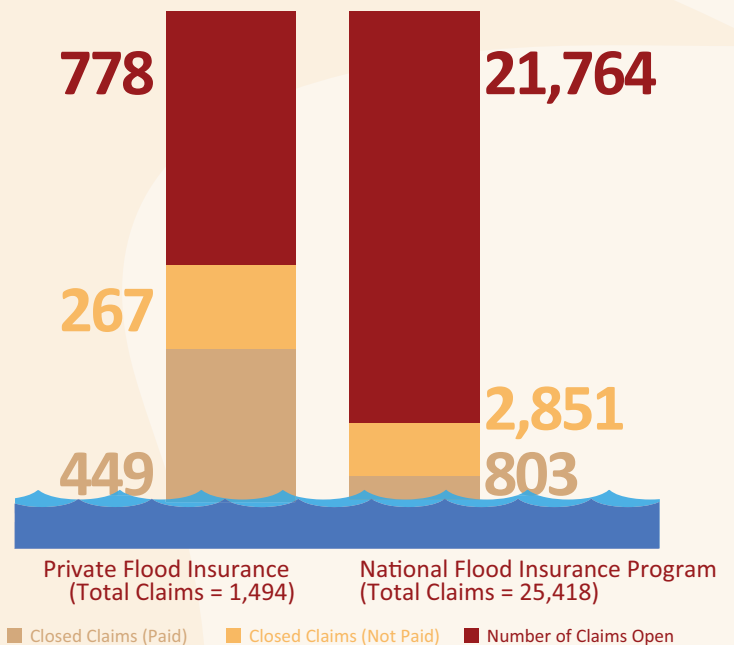
National Flood Insurance Policies (NFIP) that had an expiration date between August 7th and October 6th are eligible for a grace-period extension up to 120 days after the date of the policy expiration. Payment in full for renewal on or before the last day of the grace period is required to take advantage of this assistance. As of late October, the number of NFIP claims relating to Hurricane Irma vastly outnumbered the number of private flood insurance claims, though an overwhelming majority of these claims remained opened.

Requests for Public Assistance from FEMA must be made on behalf of the state, which is done by Florida's Department of Emergency Management (DEM). All requests for public assistance were due to FEMA by November 5th, and will be decided on by FEMA by November 24th.

Individual Assistance

As of early November, the Federal Emergency Management Agency (FEMA) had approved a total of \$891,912,613.88 in individual assistance to 732,859 applicants, although more than 2.5 million registrations have been received. Individual assistance from FEMA takes one of two forms:

1. Housing Assistance
 - Temporary housing
 - Lodging expenses
 - Repair expenses
 - Replacement expenses
 - Housing construction
2. Other Needs Assistance
 - Child care expenses
 - Medical and dental expenses
 - Funeral and burial expenses
 - Damages to household items
 - Fuel for primary heat source
 - Damage to an essential vehicle
 - Clean-up items
 - Moving and storage expenses
 - Any other necessary expenses or serious needs as determined by FEMA

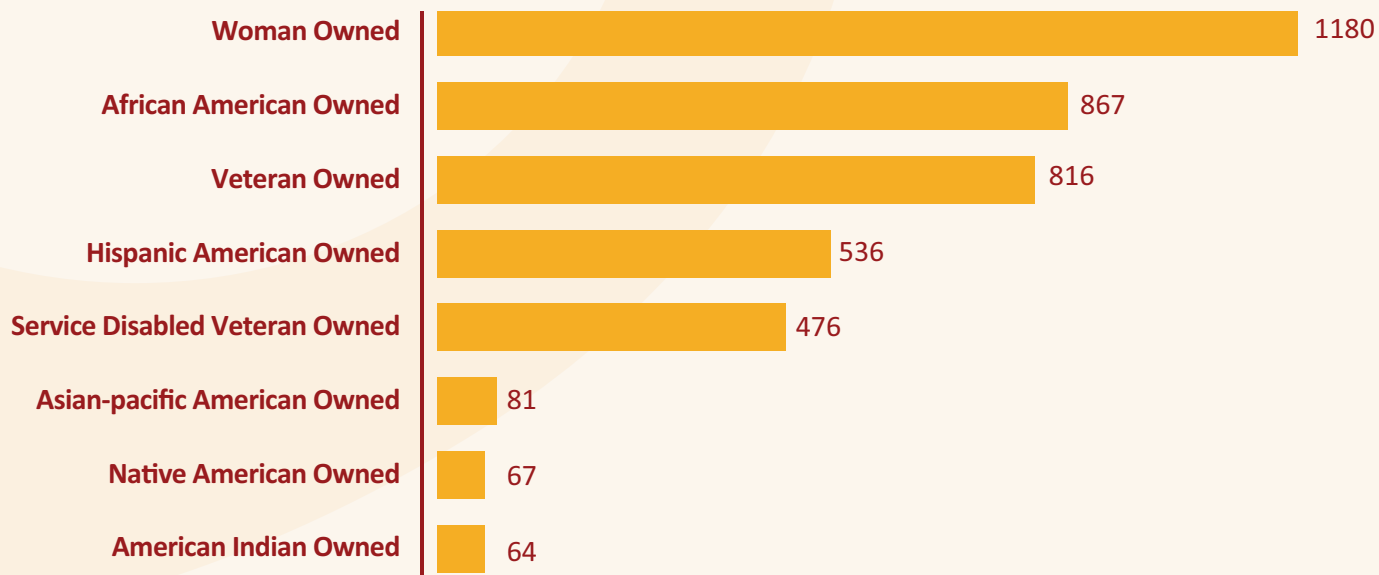
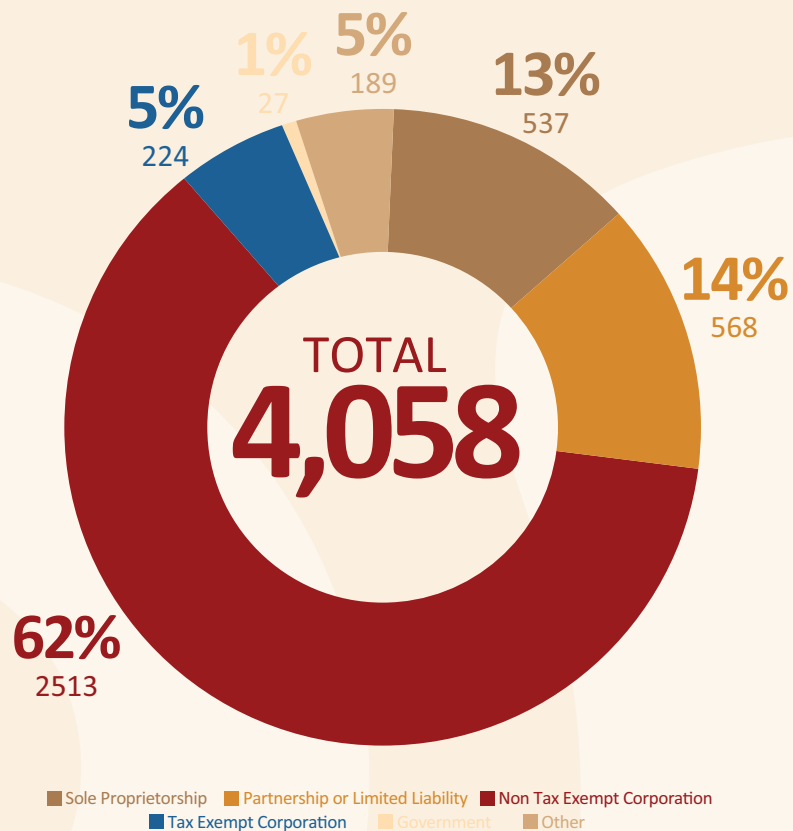


¹www.fema.gov/disaster/4337.

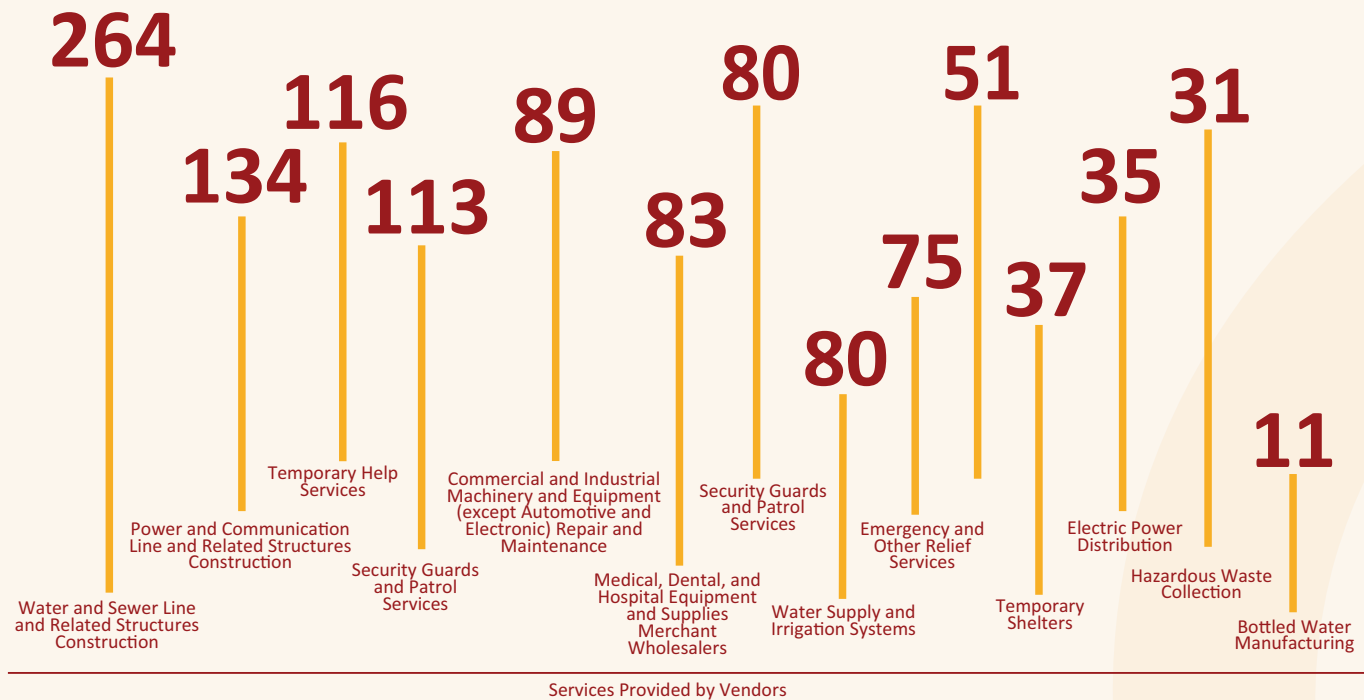
²www.fema.gov/news-release/2017/10/13/4337/reminder-about-important-application-dates-disaster-recovery-assistance>.

Notes

Federal Contractors for Disaster Response in Florida



Other Services Provided By Disaster Response Vendors In Florida



The statewide need for the goods and services offered by these vendors in the aftermath of Hurricane Irma dwarfed what it was for Hurricane Matthew one year earlier. Post-landfall disaster impact models from the U.S. Army Corps of Engineers for both hurricanes show truckloads of commodities needed and units needing temporary roofing were fractions for Matthew compared to what they were for Irma.

