



## Research

# Outmigration Begins in Puerto Rico Following Hurricane Maria

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## Summary

- Preliminary data suggest unprecedented migration from Puerto Rico to the mainland United States in the wake of Hurricane Maria, with up to 179,000 Puerto Ricans fleeing the island.
- Early estimates suggest that Puerto Rico's outmigration rate is on pace to reach levels seen in New Orleans and parts of Mississippi after Hurricane Katrina.
- Data collected throughout 2018 will show whether current outmigration trends will continue in Puerto Rico, or if after time Puerto Ricans decide to return home.

## Introduction

After hurricanes Harvey, Irma, and Maria devastated several U.S. states and two of its territories in 2017, [the American Action Forum \(AAF\) released a study](#) analyzing the impact massive hurricanes have had on state and local populations. Examining the United States' most costly hurricanes, the study found that areas affected by the hurricanes experienced a deceleration in population growth or an outright population decrease after the storms, suggesting hurricanes cause outmigration. The study concluded that Hurricane Maria would likely similarly disrupt population trends for Texas, Florida, and particularly Puerto Rico.

Roughly five months have passed since Hurricane Maria wiped out electricity on the entire island of Puerto Rico and left [more than a third](#) of its households without running water. While it is still too early to determine the hurricane's full impact, preliminary data suggest that Puerto Rico is experiencing unprecedented outmigration. This analysis [uses federal data obtained by CNN](#) to examine how the ongoing migration from Puerto Rico compares to the outmigration seen in parts of Louisiana and Mississippi following Hurricane Katrina.

## How Many People Have Left Puerto Rico Following Maria?

The exact number of Puerto Ricans who have fled following Hurricane Maria is unknown. To date, estimates of outmigration from Puerto Rico have been based on airline traveler data. From September to November of 2017, [179,000 net airline passengers](#) left Puerto Rico for the United States. While this data point provides a rough estimate of the volume of individuals leaving the island, it is likely an overestimation of migrants from Puerto Rico to the United States: A flight off the island does not necessarily mean an individual is moving from the island.

Data obtained by CNN from the Federal Emergency Management Agency (FEMA) help to refine the estimation provided by airline traveler data.

From September 20 to November 11, 2017, FEMA received at least 10,600 applications for disaster assistance.

While the applications were for a “damaged dwelling” in Puerto Rico, these applicants listed their current address as being in the mainland United States. This address discrepancy suggests the applicant moved from Puerto Rico to the mainland United States. Since applications can be for either an individual or a household, anywhere between 10,600 to 29,900 people may have migrated to the mainland United States from Puerto Rico. [i]

While FEMA data help to provide some clarity, the numbers likely underestimate actual migration. Individuals who moved to the mainland United States from Puerto Rico are not required to file for FEMA disaster aid.

### How Do These Numbers Compare to Katrina?

According to the Census Bureau, Puerto Rico was estimated to have a population of 3.3 million, as of July 2017. Using this population estimate as a base, AAF calculated the population growth in Puerto Rico that occurred between September to November 2017 using the July population estimate as a proxy for September. The results can be found in Table 1. These data indicate that over roughly two months, population in Puerto Rico has decreased anywhere from 0.61 percent to 5.36 percent – dependent on data source.

Table 1: Change in population by data source

Data Source	Estimated number of migrants	Estimated November population	Total population growth (September to November)
Net airline passengers	179,000	3,158,177	-5.36%
FEMA	20,250*	3,316,927	-0.61%

\* FEMA estimate used is an average of the range mentioned earlier.

The changes in local population levels after Hurricane Katrina provide some context for the estimates of outmigration from Puerto Rico. These changes are in Table 2.

Table 2: Change in populations in areas impacted by Hurricane Katrina

Location	Population change (2005 – 2006)	Total growth rate (2005 – 2006)
New Orleans, LA	-264,122	-53.4%
Hancock County, MS	-7,628	-16.0%
Harrison County, MS	-23,335	-11.8%
Jackson County, MS	-5,196	-3.8%

In 2005 Hurricane Katrina devastated New Orleans and the Gulf Coast of Mississippi, which is comprised of Hancock County, Harrison County, and Jackson County. Both New Orleans and Mississippi’s coastal counties experienced drastic declines in their respective populations. New Orleans’ population saw a negative growth rate of 53.4 percent from 2005 to 2006. Similarly, counties along the Mississippi coast saw negative growth rates ranging from 3.8 percent to 16 percent.

These areas, however, did not see their populations shrink until 2006 , the year after Hurricane Katrina. Population growth in New Orleans and the Gulf Coast of Mississippi was positive from 2004 to 2005. It is likely that the majority of migration from these areas did not occur immediately after the hurricane. These areas also saw positive population growth rates from 2007 to 2008, suggesting individuals migrated back after the areas rebuilt.

Puerto Rico's population levels have not followed a similar trend. In just the two months immediately following Hurricane Maria, the island's population has declined precipitously, unlike the months following Katrina. The populations declined in New Orleans and Mississippi Gulf Coast counties the year following Hurricane Katrina. This suggests outmigration from Puerto Rico will not be limited to the months following Maria but will continue well into 2018. And if current outmigration estimates from Puerto Rico hold, Puerto Rico could see its population shrink at a rate comparable to, if not greater than, that of areas hit by Hurricane Katrina.

## **Conclusion**

As predicted in AAF's previous study, massive hurricanes have an impact on populations and often cause outmigration. While estimates are still being refined, data suggest that people fled Puerto Rico rapidly shortly following Maria. And history tells us that the outmigration from Puerto Rico is likely to continue well into this year. As more data become available, we will be able to see more clearly the magnitude of migration from Puerto Rico—and whether Puerto Ricans will return home.

[i] The number 29.9 thousand was estimated by multiplying the 10.6 thousand applicants by the average number of persons per household in Puerto Rico which the Census Bureau estimated to be 2.28.