

Improving the Distribution of Disaster Emergency Assistance Programs in the USA Based on Major Disasters Data Mapping 2008-2017

Purdue University: Introduction to
Data Science Workshop – May 2018

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Background

- \$306bn damage caused by natural disasters in US in 2017
- Several studies have estimated population displacement post Hurricane Maria and population simulation scenarios based on GSM data, the monthly domestic arrivals and departures from Puerto Rican airports and cumulative net domestic air passenger balance.

BREAKING NEWS President Trump has canceled the June 12 summit meeting with Kim Jong-un. He cited "tremendous anger" from the North Korean side. 9:56 AM

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BREAKING NEWS

Trump Cancels Meeting With Kim, Citing 'Open Hostility'

By EILEEN SULLIVAN 3 minutes ago

- The meeting between President Trump and Kim Jong-un had been scheduled for June 12 in Singapore.
- Mr. Trump cited "tremendous anger" from the North Korean side.

Comments

North Korea Says It Has Destroyed Nuclear Test Site

By CHOE SANG-HUN 44 minutes ago

The event was captured by foreign journalists, but North Korea did not invite any independent nuclear monitors to verify the dismantlement.

- 124 Comments
- China May Benefit From Delay in Trump-Kim Meeting

Jared Kushner Gets Security Clearance

After Long Process

The Places in the U.S. Where Disaster Strikes Again and Again

In the last 16 years, most of the damages caused by catastrophes like wildfires and hurricanes have been concentrated in just a few areas.

By SAHIL CHINYOY

Your Thursday Briefing

By CHRIS STANFORD 7:54 AM ET

Here's what you need to know to start your day.

- New York Today: Fixes for a Broken Housing System

Listen to 'The Daily': 'Fake News' on Trial

The families of some Sandy Hook victims are suing Alex Jones of Infowars for defamation, bringing the

Opinion

The N.F.L. Kneels to Trump

By THE EDITORIAL BOARD

The league has given in to the president's demagoguery.

How Trump Gets Into Your Bed

By GAIL COLLINS

Susan B. Anthony is spinning in her grave.

Philip Roth and the Whale

By NATHAN ENGLANDER

His offhand comments about writing stick with me almost as much as his novels.

- Cohen: The Liberation in Roth's 'American Berserk'
- Roth's 'Toxic Masculinity'
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Yes, You Can Go Home Again — if You're a White House Correspondent From Elkhart, Indiana

3h As part of a showcase for artists at New York City's La Guardia Airport, writers will create fictional tales for filters — and finish them before they land.

THE CROSSWORD »

Play Today's Puzzle

Project Aims

- Understanding the household disaster emergency assistance post Hurricane Maria by looking primarily at Puerto Rico, Florida and Texas;
- Minimizing the inequality in emergency assistance provision based on the distribution of disaster relief assistance in relation to mapping the household income in the city districts that were most affected by the disaster;

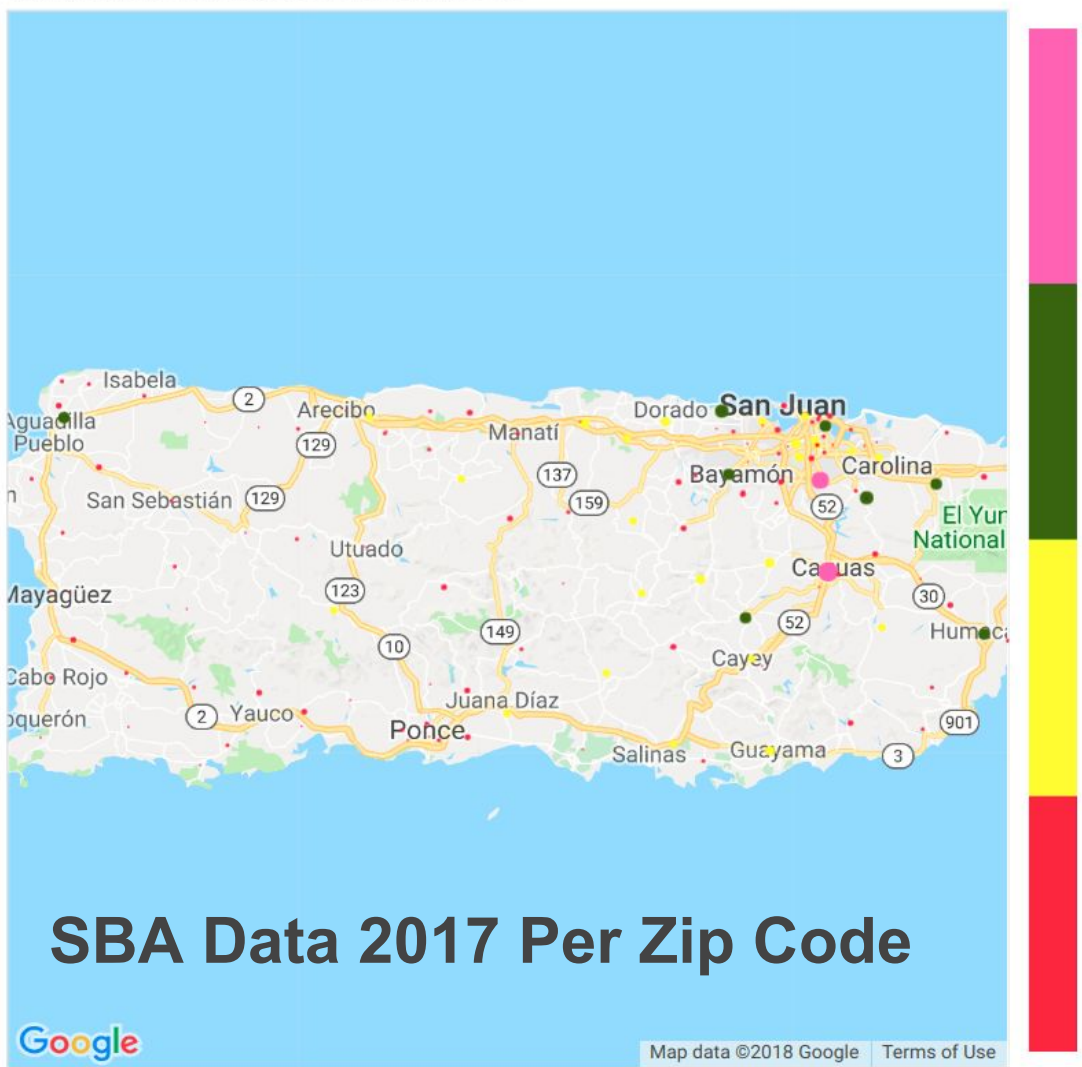
Objectives

- Map the zip codes in the three States most affected by natural disasters in 2017
- Compare spending on disaster relief in each zip code with median income in each zip code.

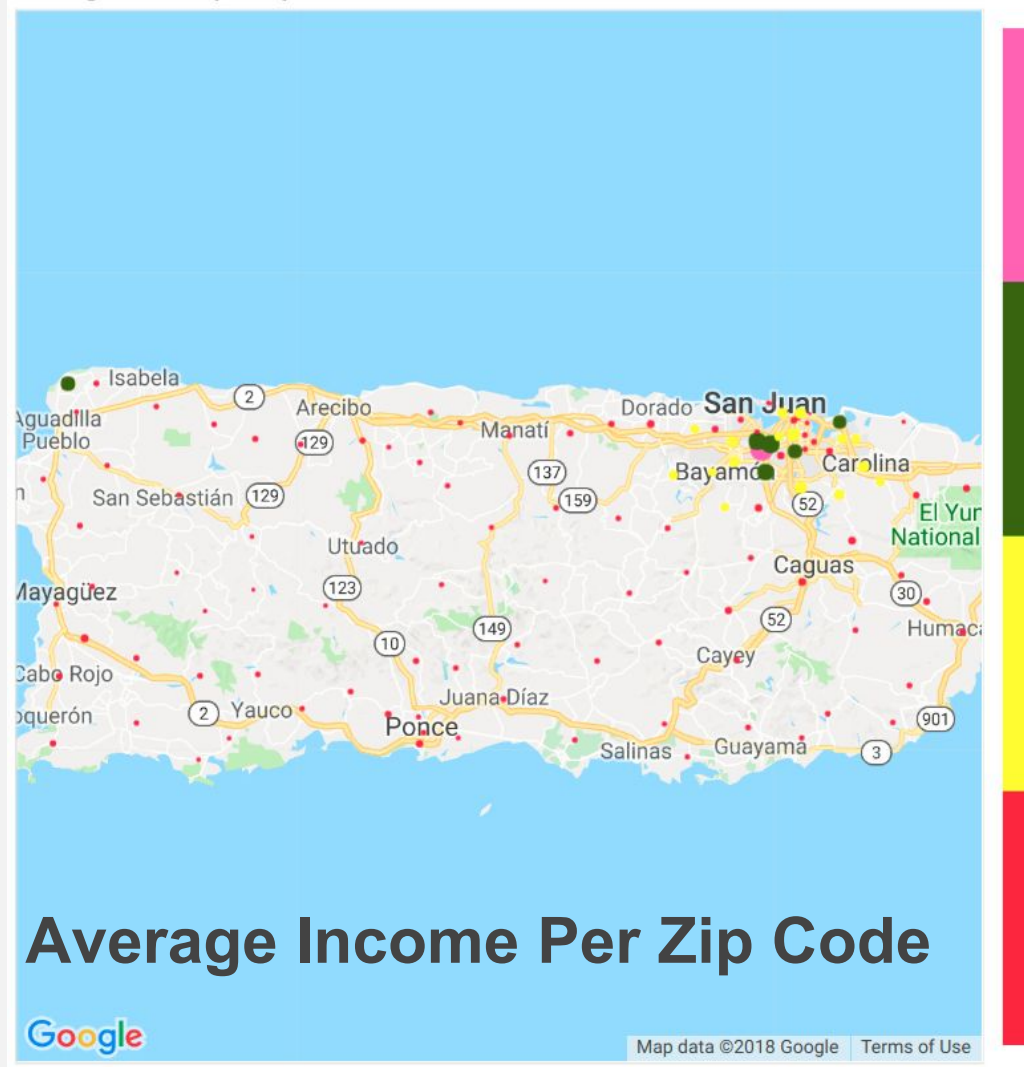


Emergency assistance and median income by zip code Puerto Rico Analysis (2017)

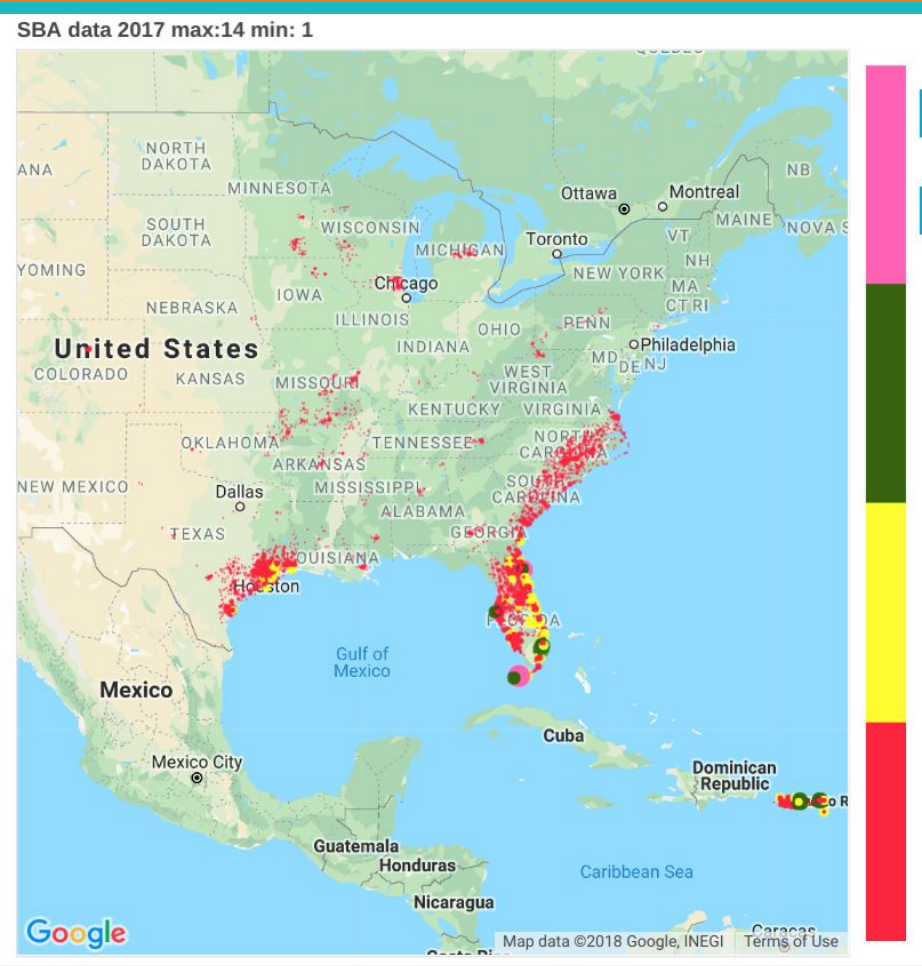
Puerto Rico SBA data 2017 max:10 min: 1



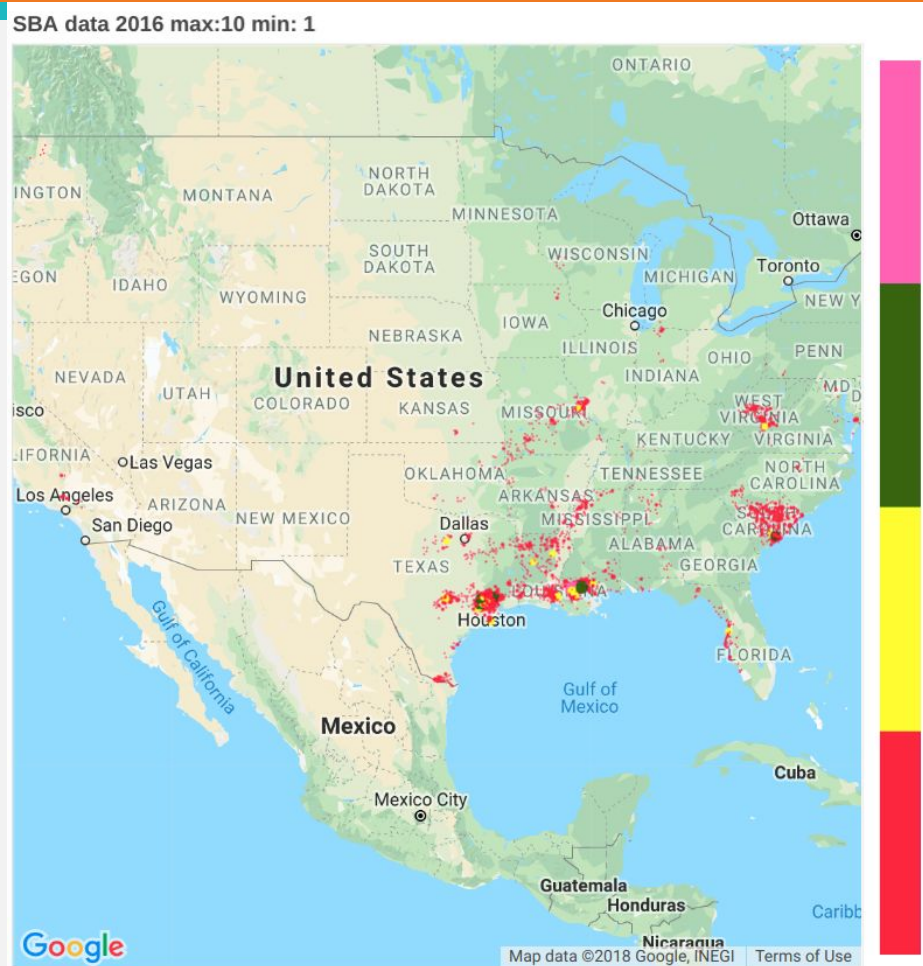
Average Income per ZipCode Puerto Rico 2016 max:12.3385 min: 1.6125



Emergency assistance Application Frequency according to zipcode (2015-17)



2017



2016



2015 (Saipan)

Phase 2

- Addressing the structural conditions of disaster relief policy-making.
- Mapping the spending on disaster relief efforts in all US zip codes.
- Mapping the zip codes in the US by median income.

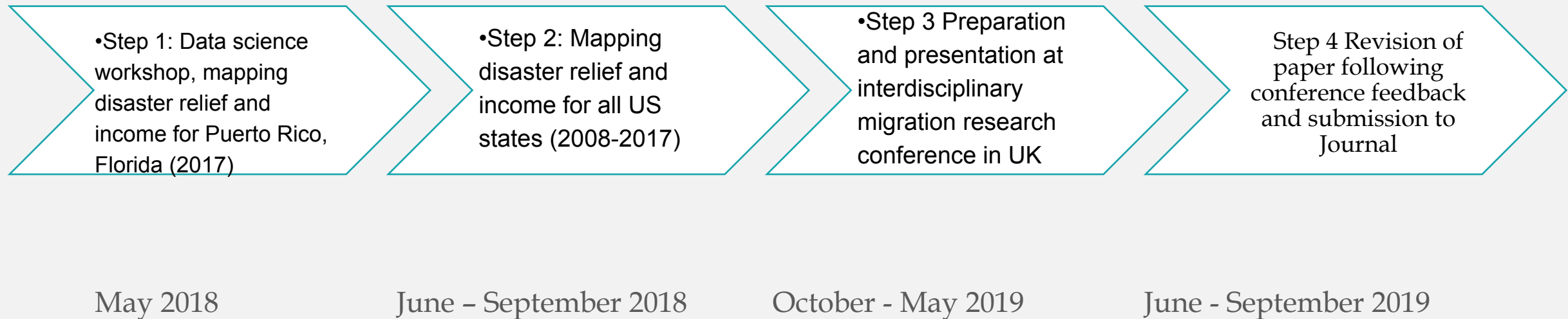
Phase 2: Project outputs

- Panel presentation at interdisciplinary conference in UK
- Peer reviewed journal article
- Funding bid to research council for (Phase 3) comparative project on natural disaster relief and migration

Phase 2: Costings

Item	Cost	Notes
Travel	\$1,210	2 x flights from US to UK
	\$160	4 x off peak return train tickets from Birmingham to Oxford.
Conference costs	\$1,000	4 x IMISCOE migration studies conference data science panel
	\$200	4 x TORCH University of Oxford migration conference for panel discussing data science in migration and diversity studies.
	\$76	Refreshments for University of Birmingham Seminar
Accommodation costs	\$750	2 x Hotel in Birmingham for one week
Publishing	\$1,595	Article publishing fees at PLOS1 (General and interdisciplinary)
Data costs	\$500	US zipcodes database boundaries bundle (For median income data by zipcode)
	\$50	FOIA Request for data from FEMA on disaster relief by zipcode between 2008 and 2016, Immigration status and Ethnicity
	\$5,540	

Phase 2: Project timeline



Phase 3

Seed funding for phase 2 would enable us to apply for grant funding for phase 3.

Objective:

- Compare US disaster relief distribution with other nations.

Questions?