Tweet Comparison for Puerto Rico Earthquake and Hurricane Maria

Ziqian Song[1], Austin Spencer[1], Taylor Thackaberry[1], Kayley Bogemann[1], Shane Burchard[1], Jessie Butler[1], Liuqing Li[1], Kris Wernstedt[1], Pamela Murray-Tuite[2], Edward A. Fox[1]
[1)]Virginia Tech [2)]Clemson University

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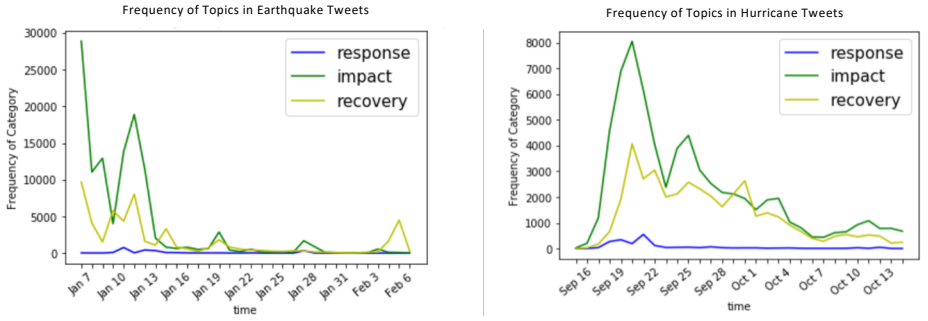
Introduction

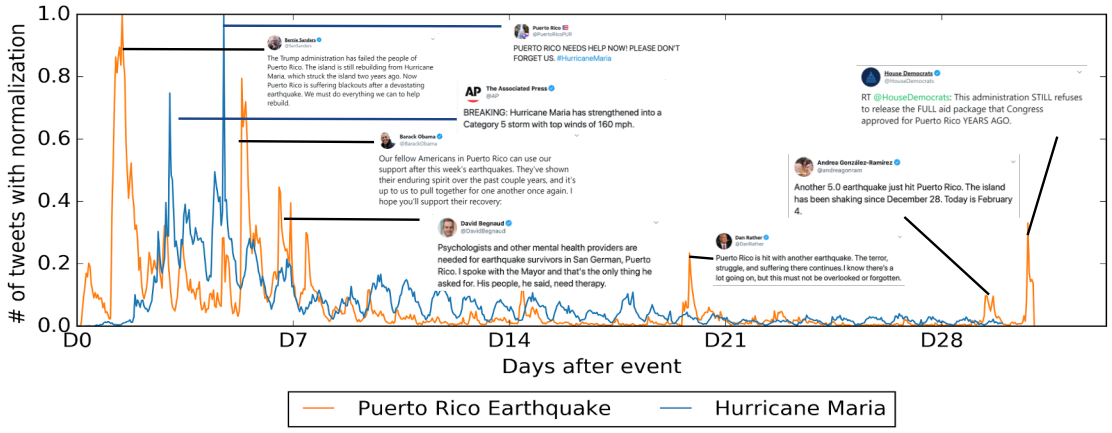
- Since December 2019, Puerto Rico experienced several **earthquakes** > 5.0 magnitude.
- By **analyzing over 300,000 tweets**, we plan to **identify behavioral patterns.**
- We consider the **geotags** associated with tweets and **key words or topics in tweets.**
- Similar analysis is run on tweets from **Hurricane Maria** to compare the behavioral patterns of tourists and locals of each event.

Methods

- **Collecting Tweets** pertaining to disaster topics
- Using **Python** to analyze the collected Tweets
- **Graphing** data, such as
  - Frequency of Tweets
  - Frequency of Topics
  - Location of Tweets
  - Route of Hurricane
- Analyzing **popular topics** mentioned in Tweets



Frequency of Topics for the Puerto Rico Earthquakes and Hurricane Maria



See CS4624 student submission in VTechWorks: http://hdl.handle.net/10919/98251; for questions send to fox@vt.edu

Data

- **402,016 Tweets** related to Puerto Rico Earthquake between January 7, 2019 and February 6, 2019
- **317,214 Tweets** related to Hurricane Maria between September 15, 2017 and October 14, 2017

Conclusions

- **Hurricane Maria's arrival was forecasted**, resulting in a larger corpus of tweets about it occurring the days leading up to and during the event.
- **The earthquakes were not predicted**, and sporadic aftershocks meant that sharp spikes of activity started every time there was another earthquake.
- The overall decrease in discussion over the time period is **likely due to external (mainland US) lack of interest or relevance.**

Acknowledgement

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The above maps illustrate Hurricane Maria's path compared to a heatmap of Twitter activity