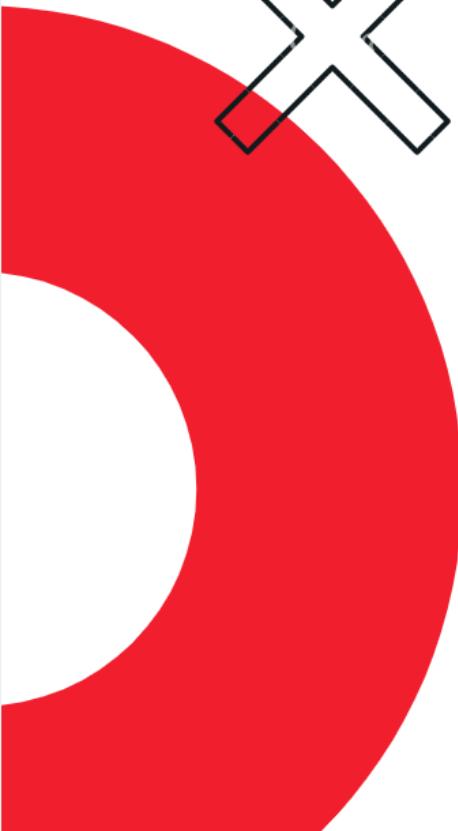




TWITTER MAPPING DISASTERS

Presented by Tung Phung, Roohullah Mansoor, Josh Robin

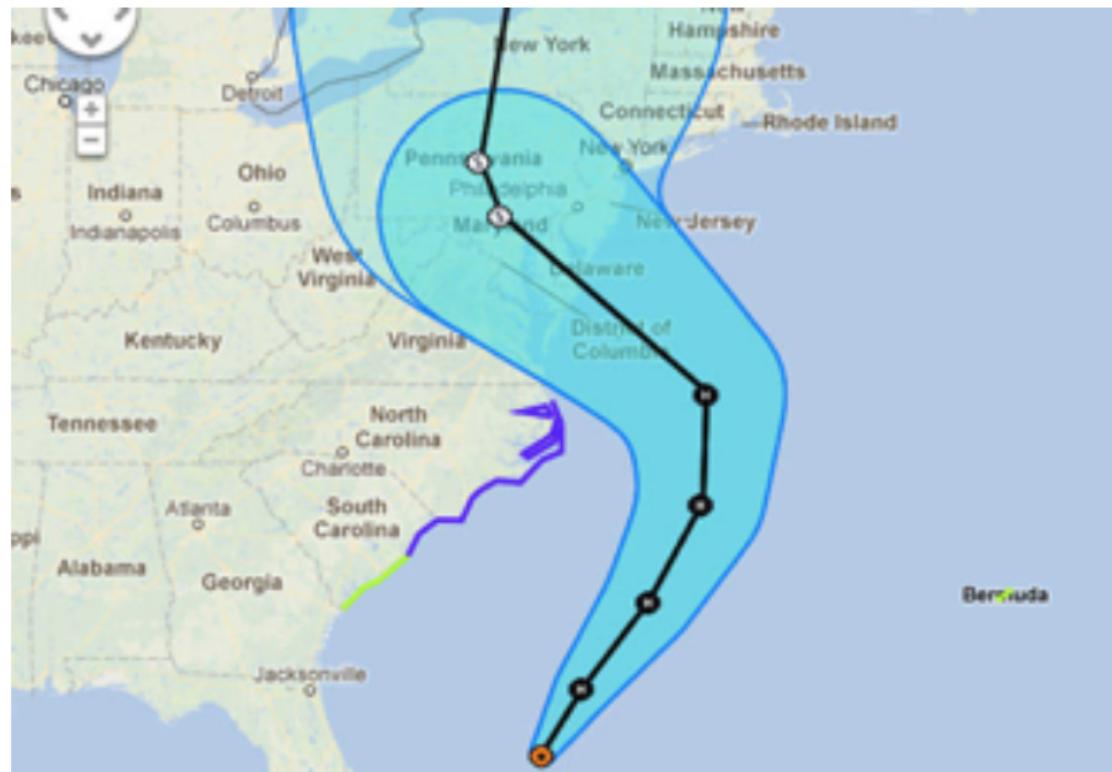




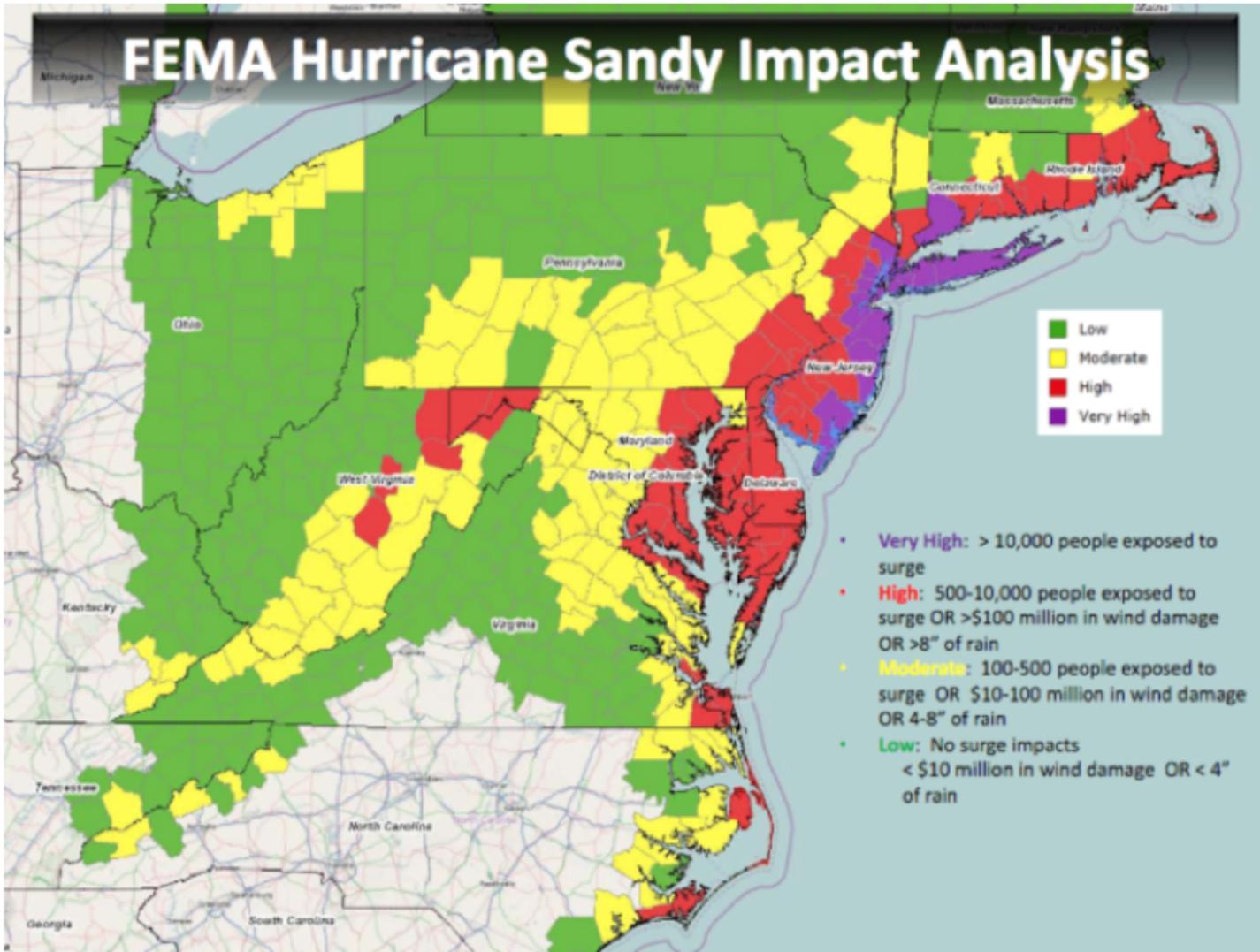
Problem Statement

Using social media to leverage aid affected people during natural disasters.

Case Study: Hurricane Sandy



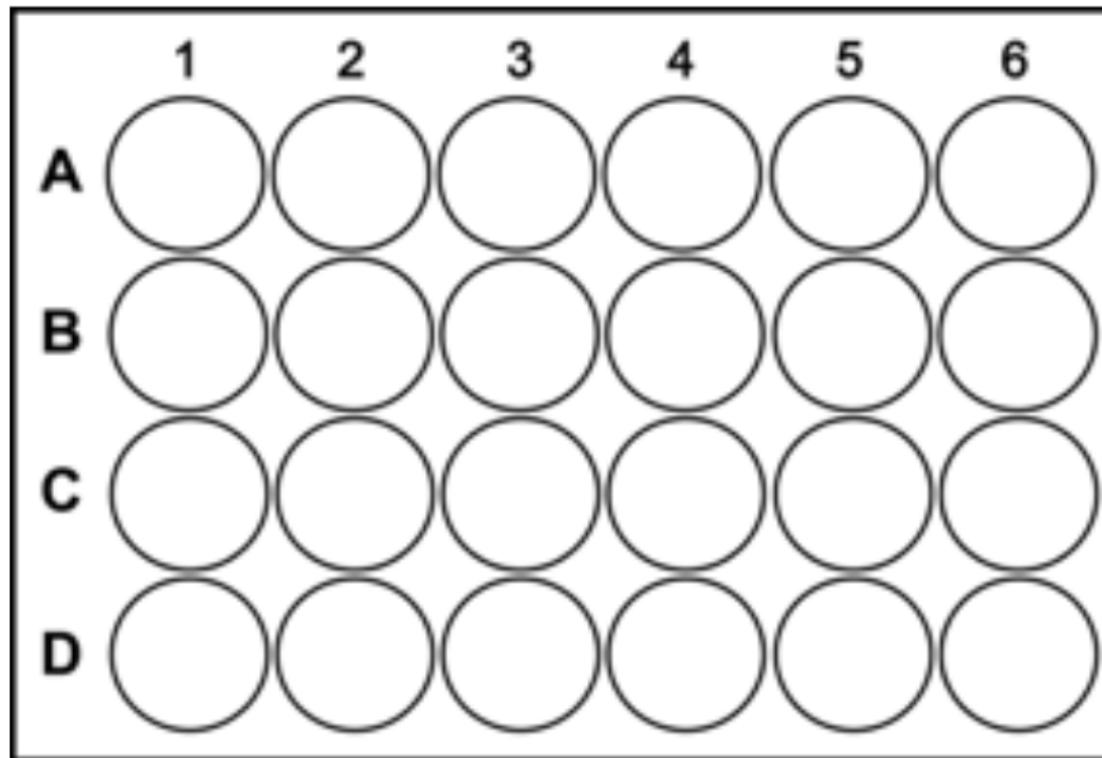
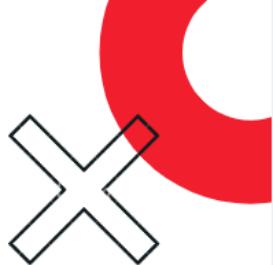
October 2012





GATHERING THE DATA

- TWITTER SCRAPER
- PYTHON LIBRARY
- LOCATION
- TIME
- KEYWORDS (HURRICANE, SANDY)



Created grid of circles to search for 7.5 KM radius from where people tweeted during the Hurricane in Delaware, Philadelphia, Newark, Long Island

NATURAL LANGUAGE PROCESSING

- Count Vectorizer
- N Grams 1-2
- No stemming

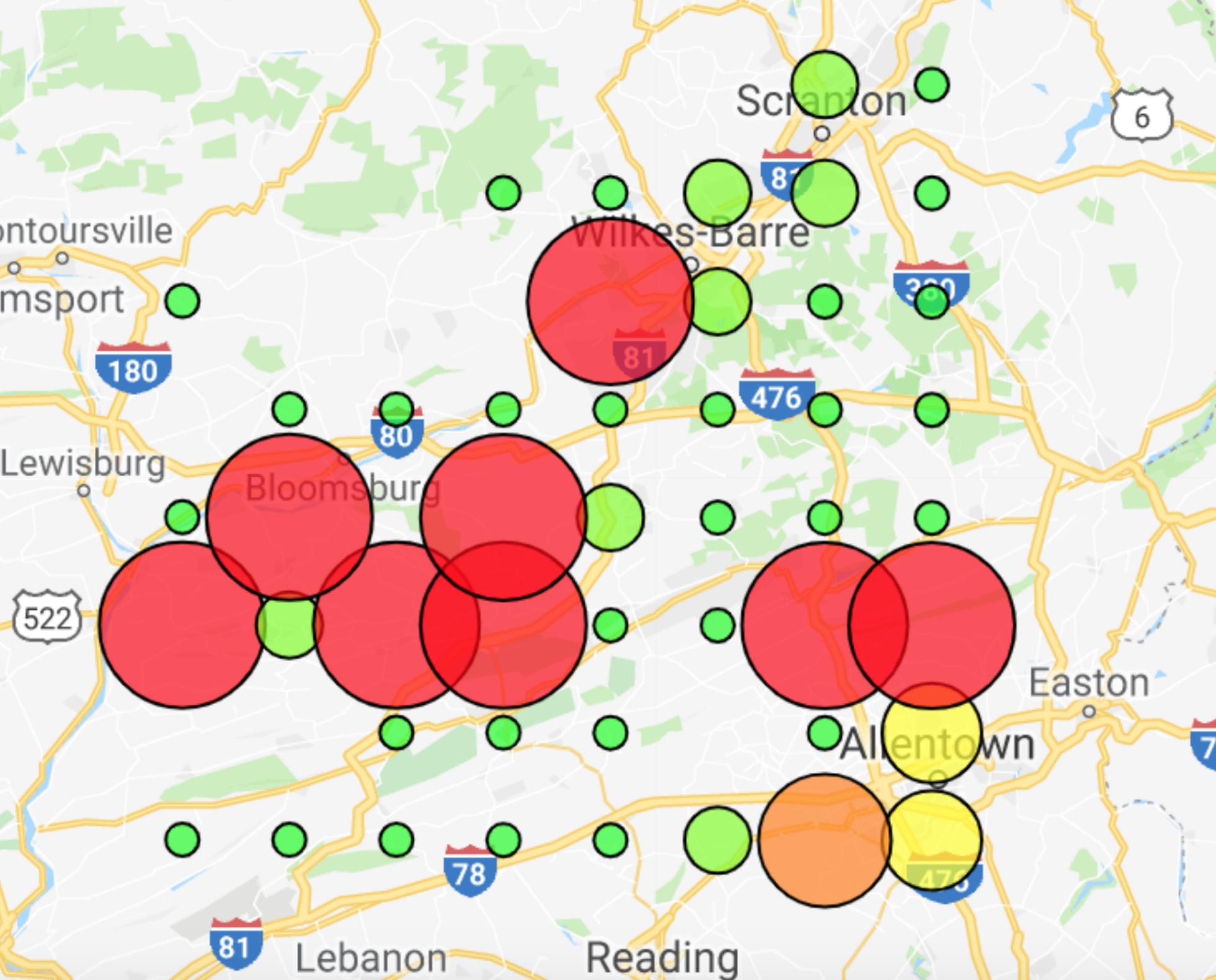


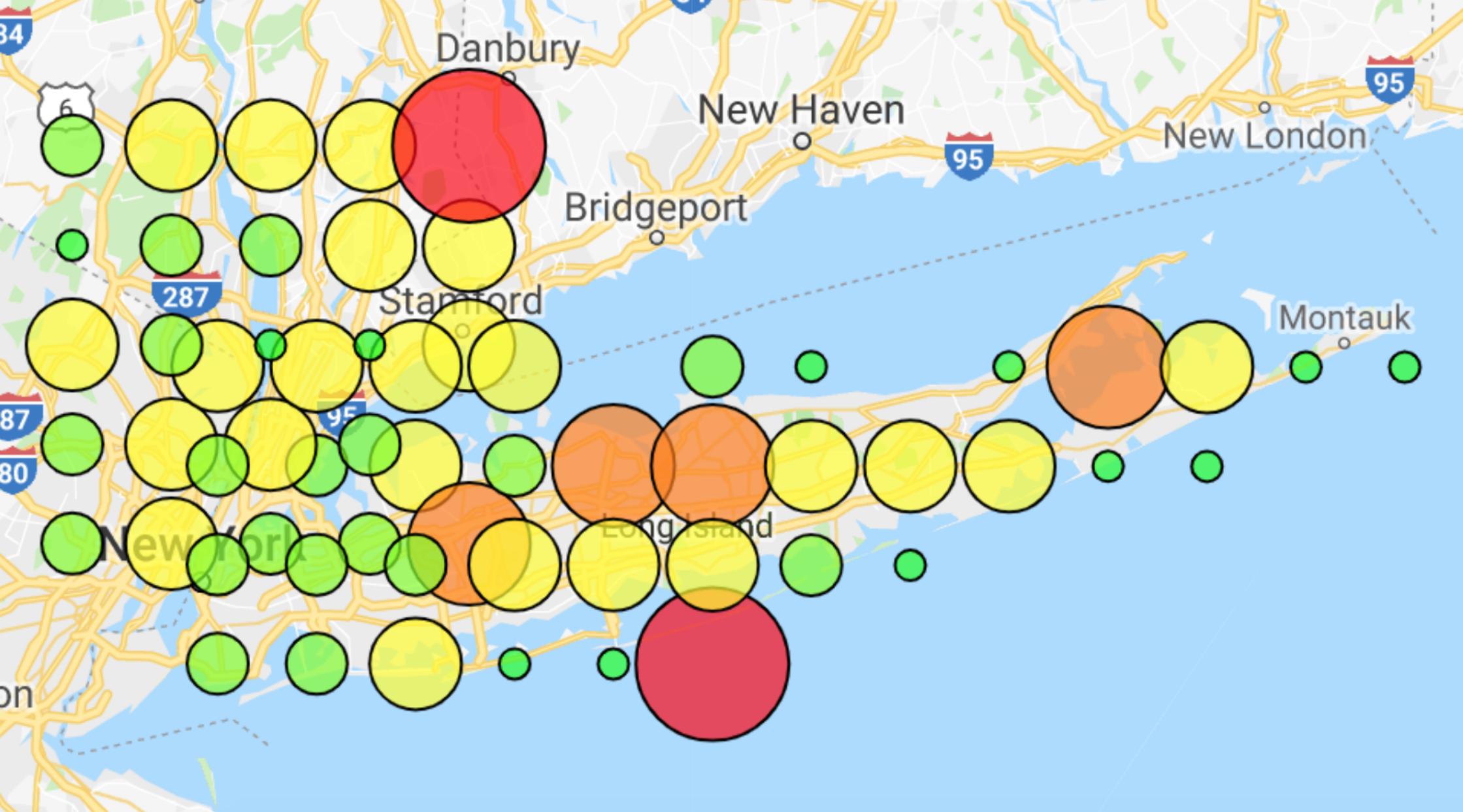
BUZZ WORDS

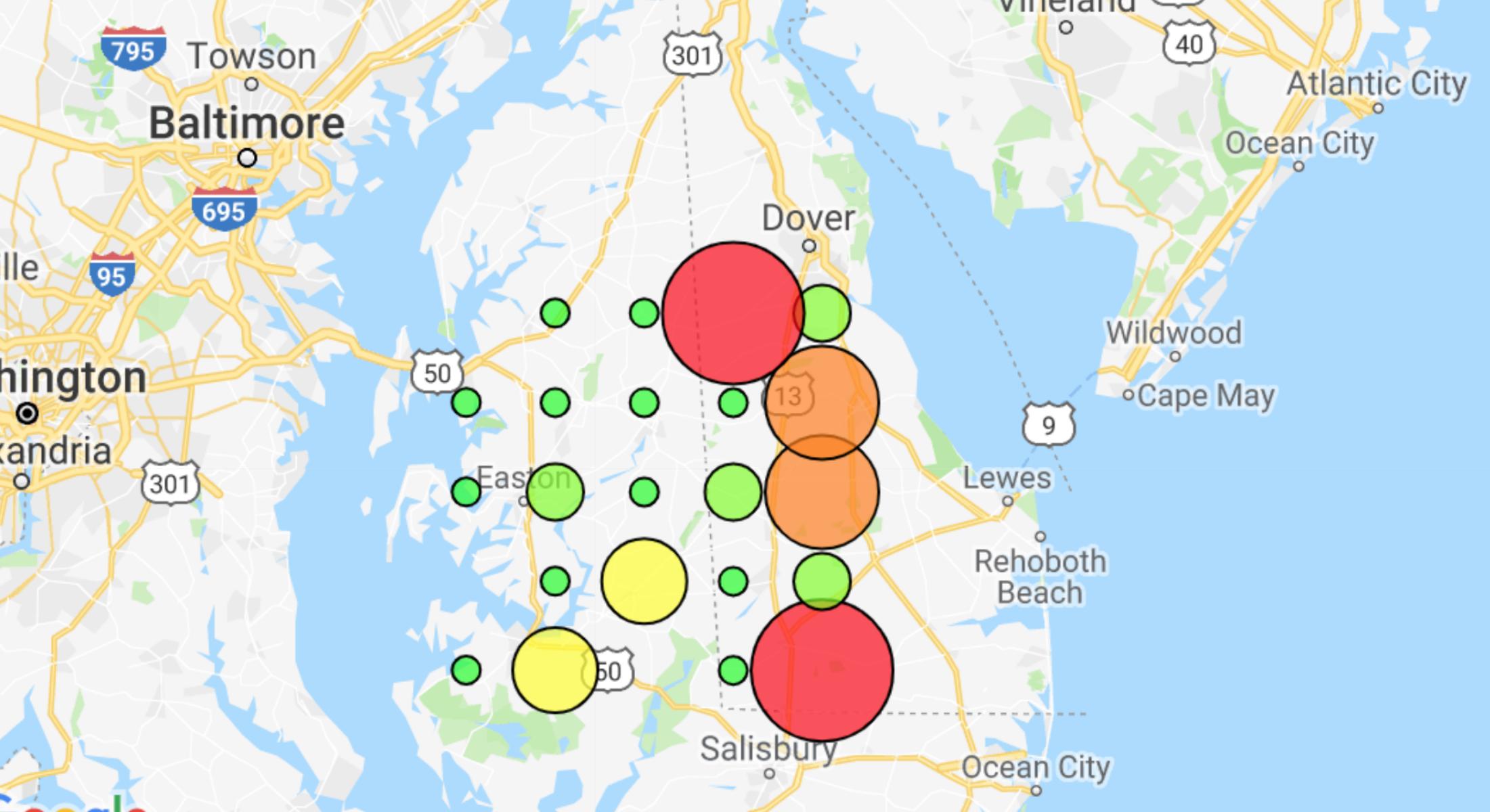
[**'help'**, 'please help', 'severe', 'damage', **'flood'**, 'unsafe', 'flooding', 'wind', 'power outage', **'danger'**, 'serious', 'destroyed', 'killed', 'need help', 'dead', 'emergency', 'major', 'major damage', 'help us', 'help me', 'lost power', 'no power', **'no food'**, 'strong wind', **'stuck'**, 'trapped', 'not safe', 'hurt', 'severe damage', 'destruction', 'in trouble', 'freezing', "can't move", 'bad', 'really bad', 'awful', 'very bad', 'dangerous', **'very dangerous'**, 'storm surge', 'heavy rain', 'damaging', 'drown', **'crushed'**, 'without power', 'devastating', 'underwater', **'under water'**, 'overwhelming', 'tree down', 'downed tree', **'destruction'**, 'leveled', 'knocked out', 'need shelter', 'fire', **'on fire'**, 'fucked', 'debris', 'catastrophe']

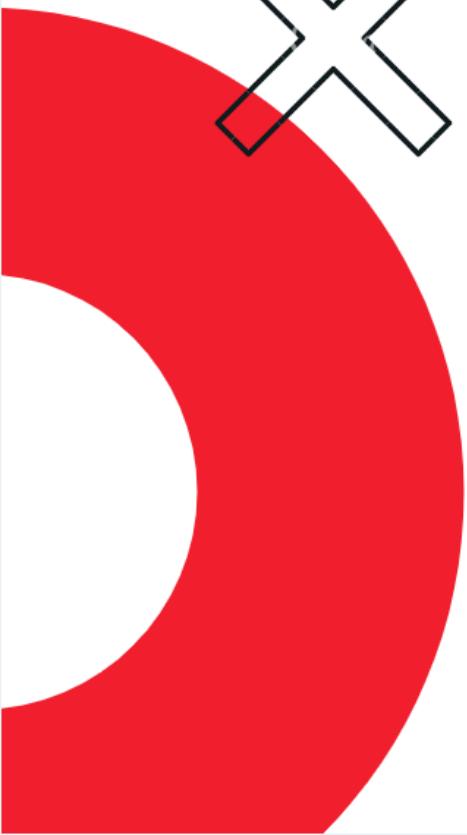
Modeling

- K-means (`n_clusters`, 2-3-4)
- DB Scan









Conclusions & Recommendations

- We intuitively believe the map is representative of actual need
- This could be implemented to better allocate resources during a natural disaster better.
- We would have liked to be able to test this on more natural disasters and to fine tune the model.
- No effective confirmation of the accuracy of this model.
- In the future, Word2Vec could have been a better option than manually generating buzz words.