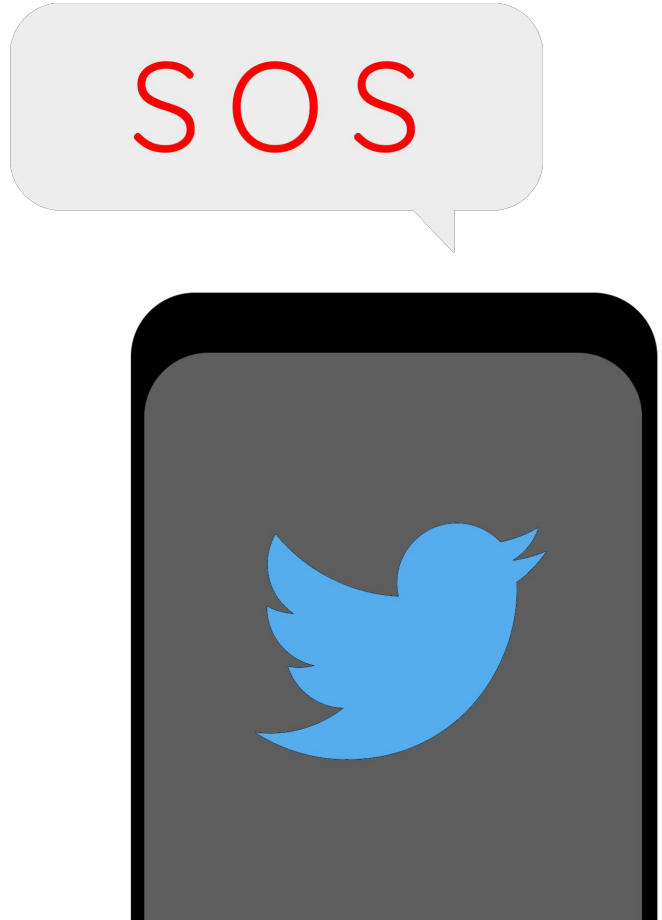
Crowdsourced Cartographic Catastrophe Analysis

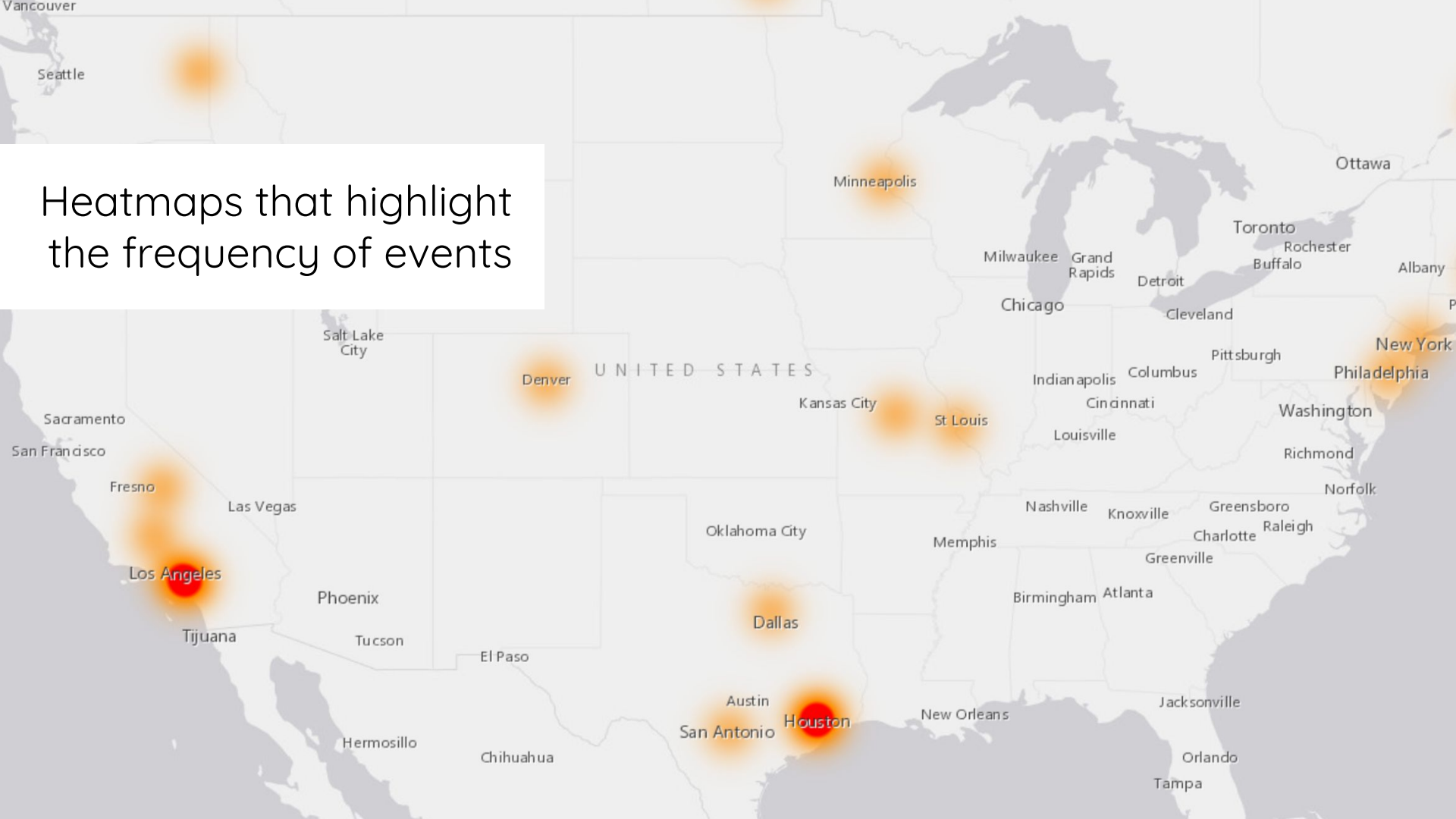
A Waitlisters Project

Uses the frequency of tweets with location enabled and keywords relevant to natural disasters to form a heatmap from which first responders and helpers can decide which areas are most in need of assistance.



Gathering the data

Uses the tweepy library to scan for tweets with keywords like ‘earthquake’, ‘flood’ or ‘wildfire’ and gather their metadata. Then use the geopy library to turn the location of the tweets into GPS coordinates and write out to a .csv file for processing.


Heatmaps that highlight the frequency of events
Vancouver
Seattle
Minneapolis
Ottawa
Toronto
Rochester
Buffalo
Albany
Milwaukee
Grand Rapids
Detroit
Chicago
Cleveland
Salt Lake City
Denver
UNITED STATES
Pittsburgh
New York
Philadelphia
Indianapolis
Columbus
Cincinnati
Kansas City
St Louis
Washington
Louisville
Sacramento
San Francisco
Richmond
Fresno
Las Vegas
Norfolk
Nashville
Knoxville
Greensboro
Raleigh
Charlotte
Oklahoma City
Memphis
Greenville
Los Angeles
Phoenix
Birmingham
Atlanta
Dallas
Tijuana
Tucson
El Paso
Austin
Houston
San Antonio
New Orleans
Jacksonville
Hermosillo
Chihuahua
Orlando
Tampa

Different colors for different events

In the future...

- Use machine learning to filter out noise and make sure that the maps only represent meaningful data.
- Find nearby emergency response services and alert them of the need for help
- Make a twitter bot that would tweet out the location and severity of natural disasters

This can have many other applications - identifying popular events and trends based on twitter activity and turning them into heatmaps.