Leveraging Social Media to Identify Major Historic Flood Events

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Problem Statement

Create an open-source tool to identify historical flood events based on data extracted from Twitter and international weather stations.

AGENDA

01 Data Collection

02 Visualizations

03 Next Steps

Data Collection

Twitter Data

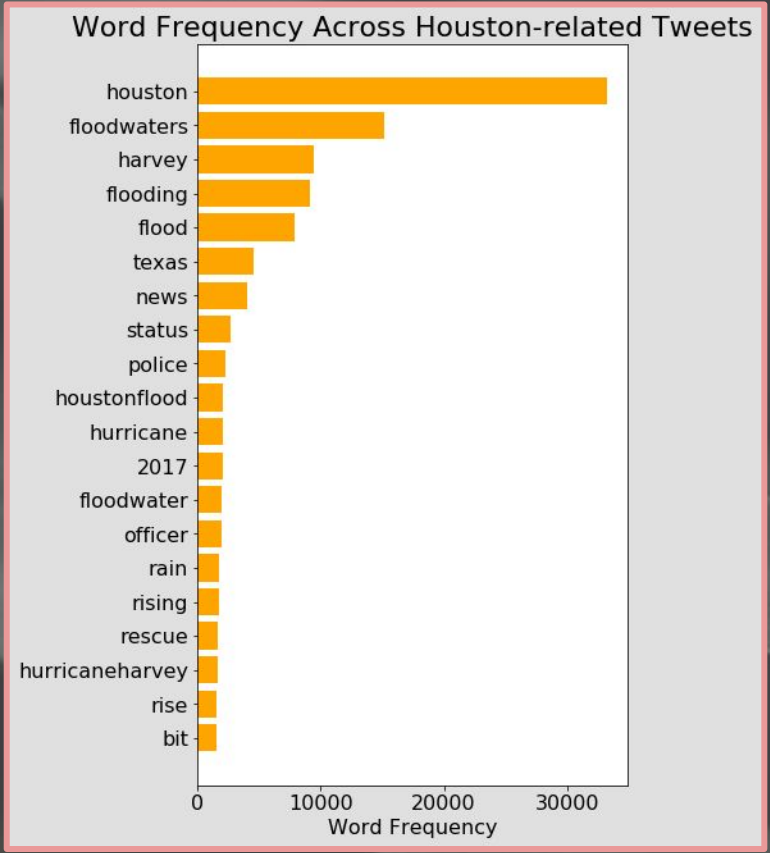
tweet text
date & time
location (from keywords)
keywords & hashtags

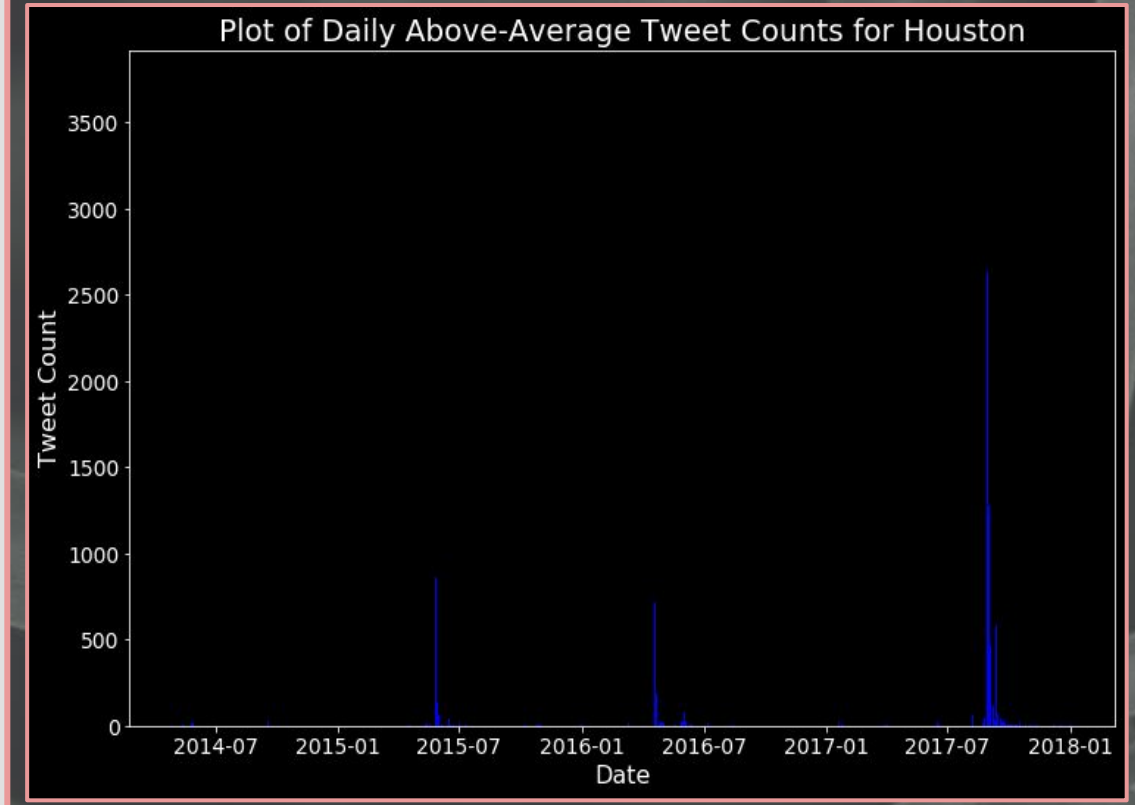
NOAA Weather Data

max temperature
min temperature
precipitation

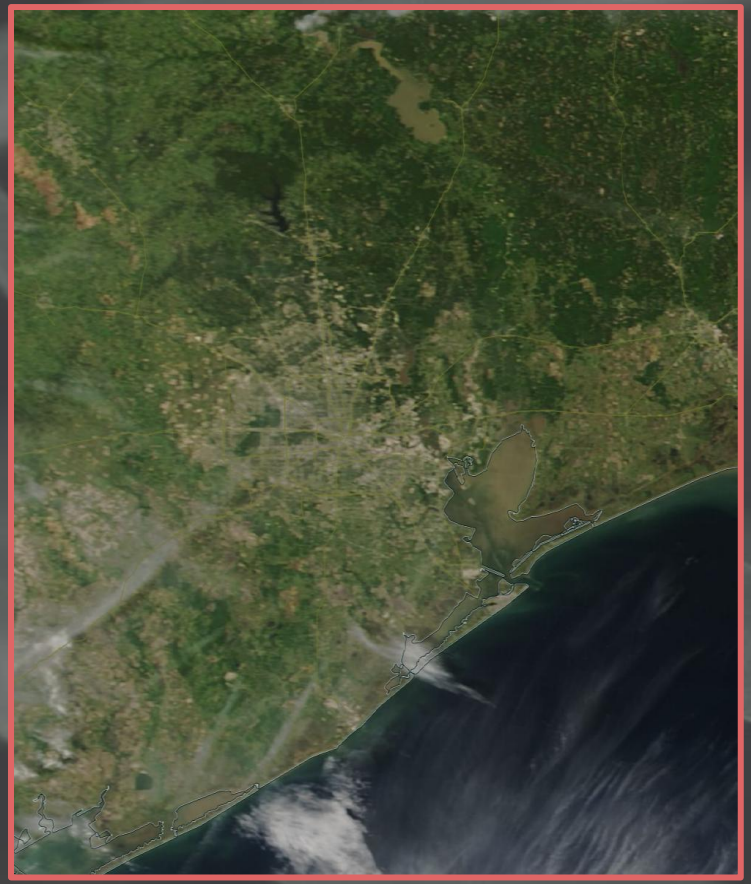
Visualizations: Houston Floods

Houston Tweet Frequency

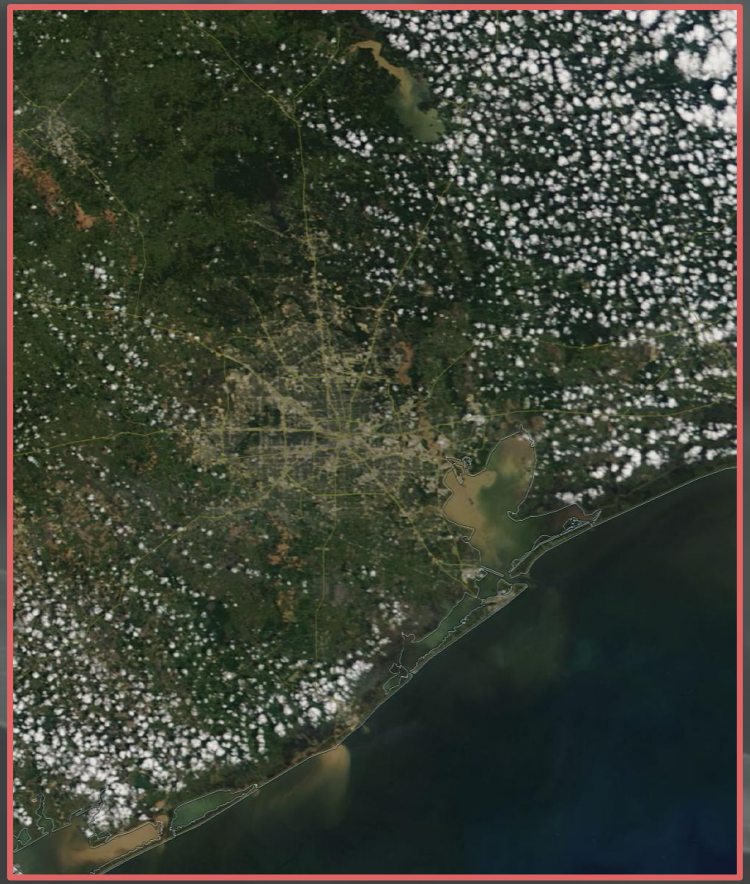




2016 Houston Floods



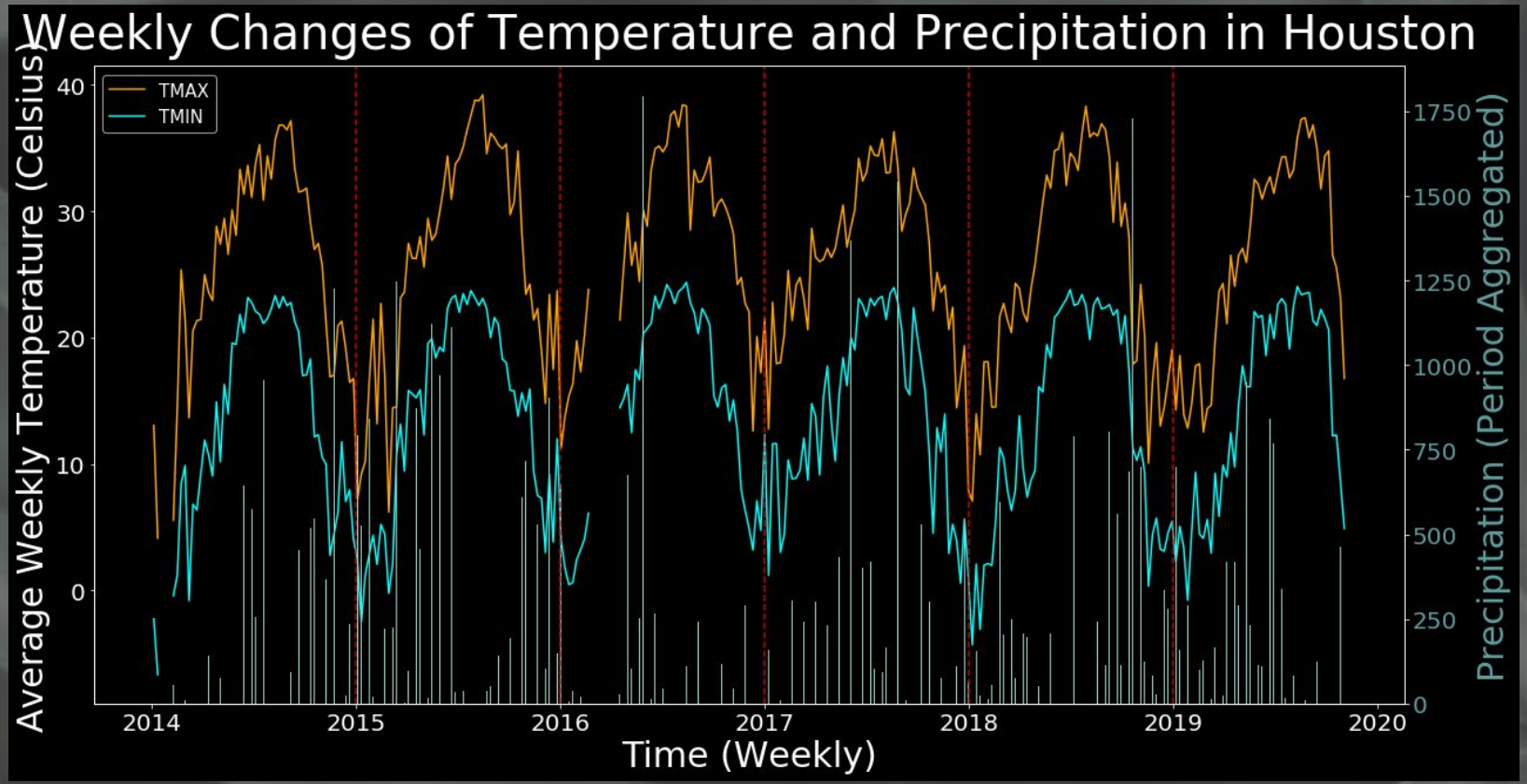
Before



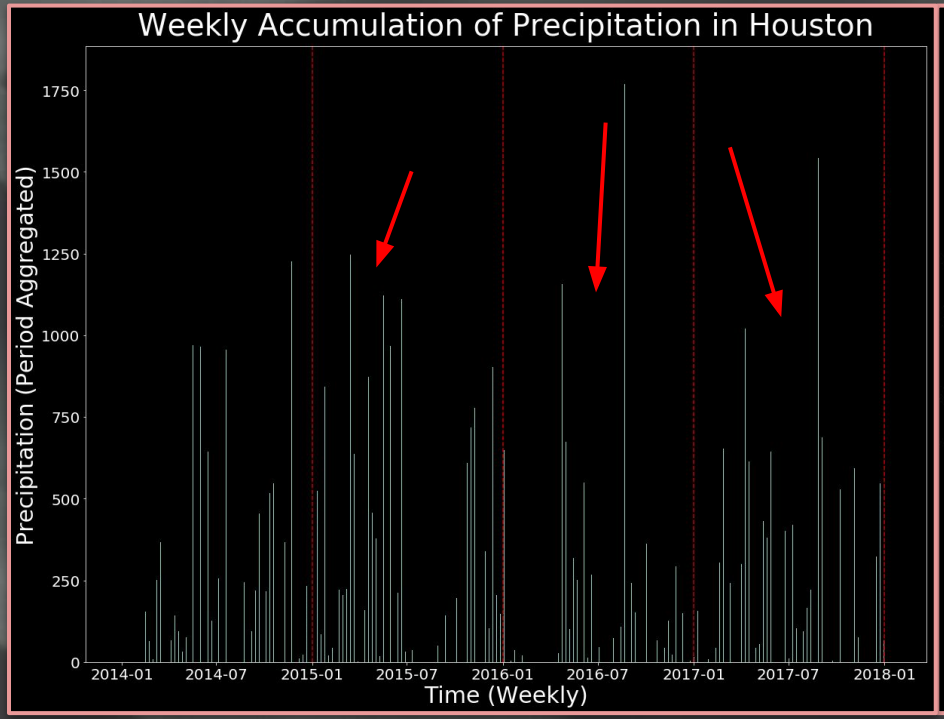
After

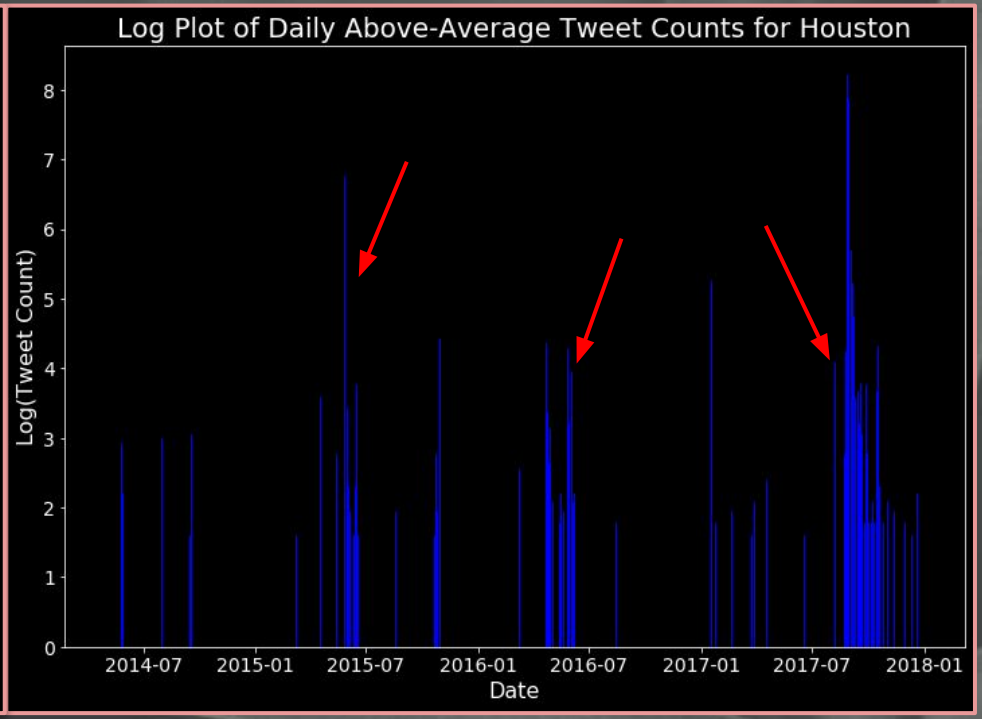
Liquid water on the ground appears very dark since it absorbs in the red and the SWIR.

Houston Weather (5+ Year Trend)



Houston Precipitation & Tweets



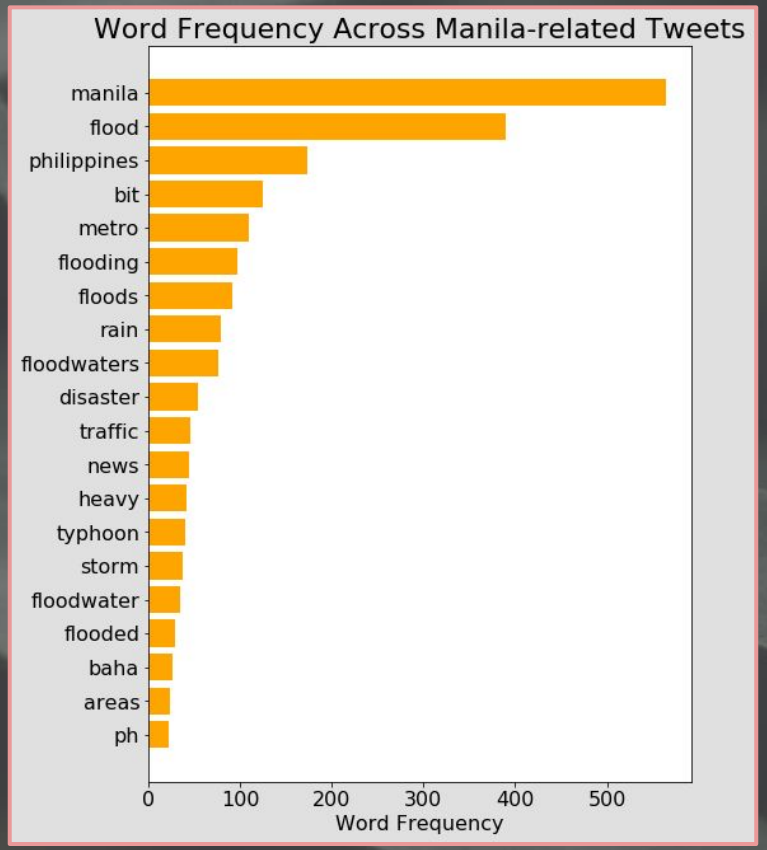


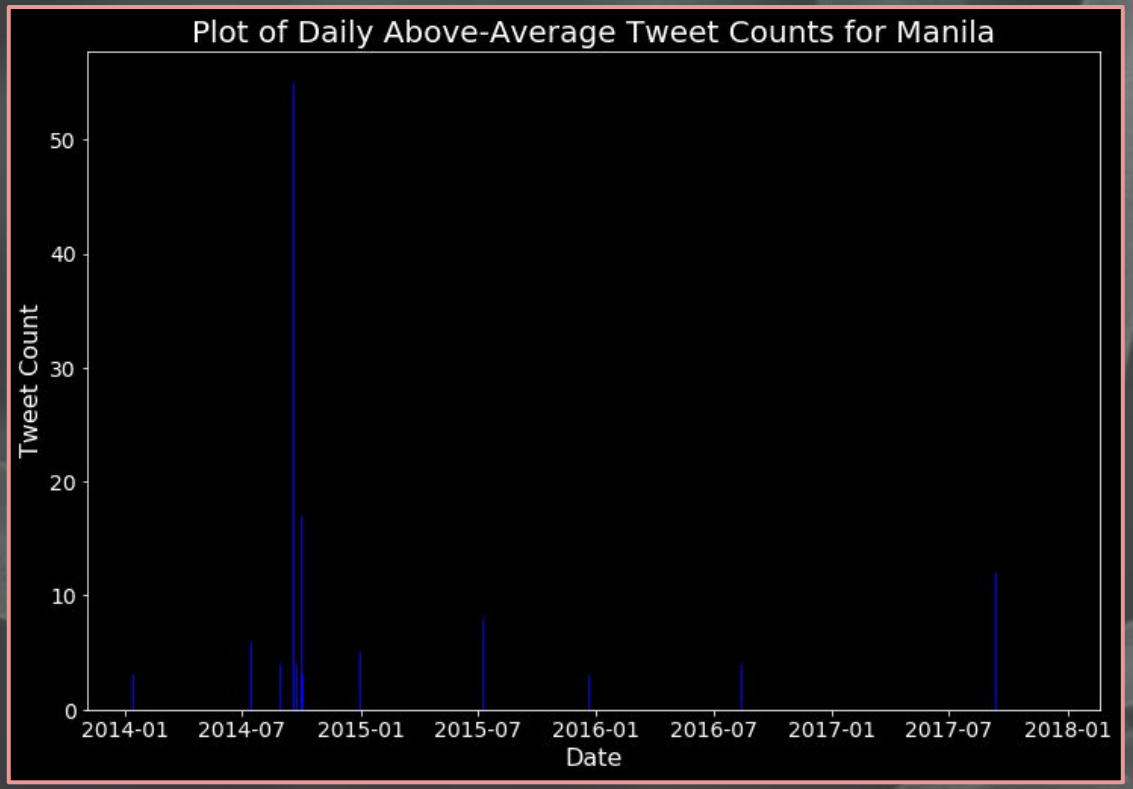
Our tool can be applied on an international scale!

Try Manila, Philippines.

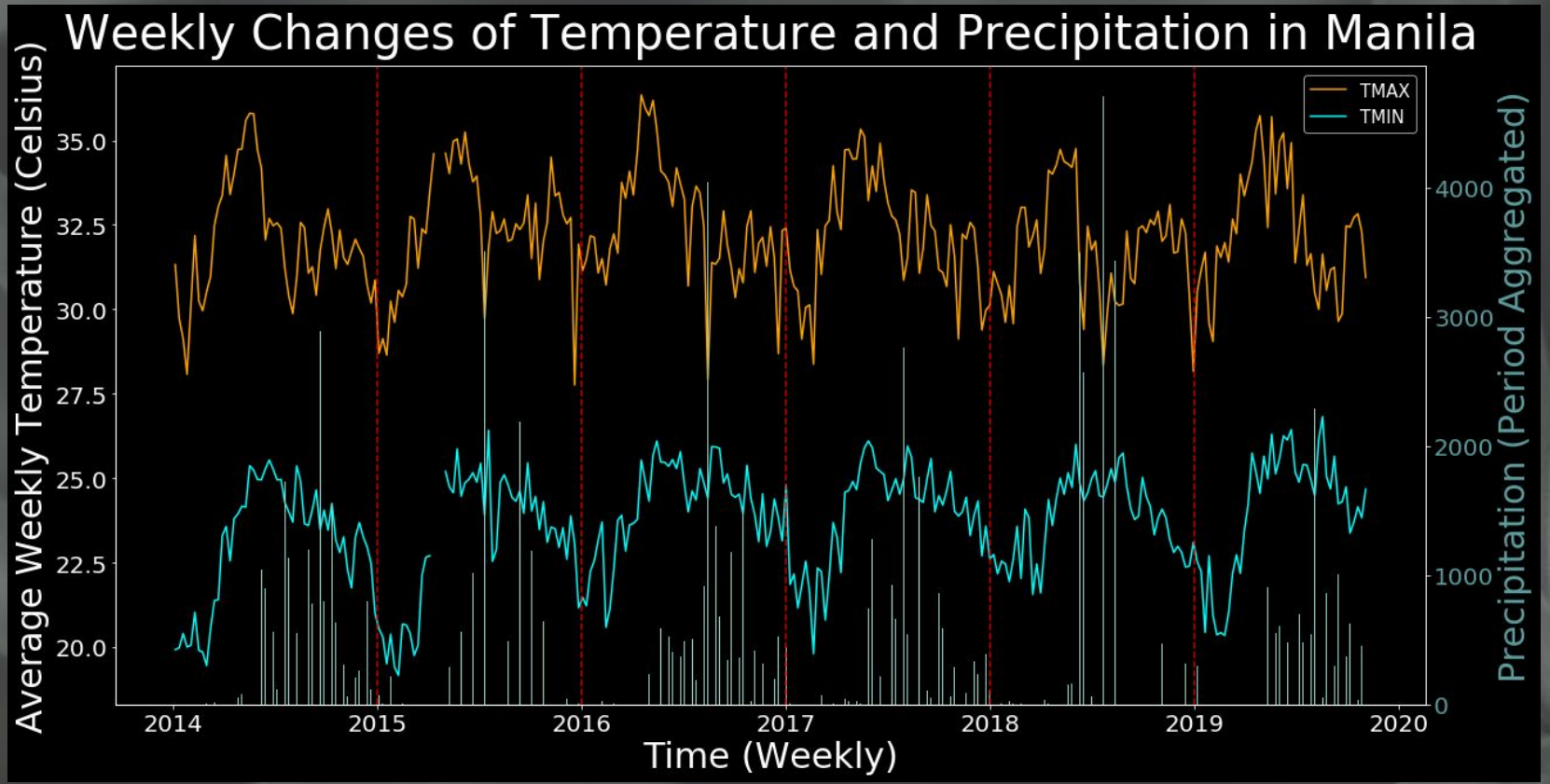
Visualizations: Manila Floods

Manila Tweet Frequency

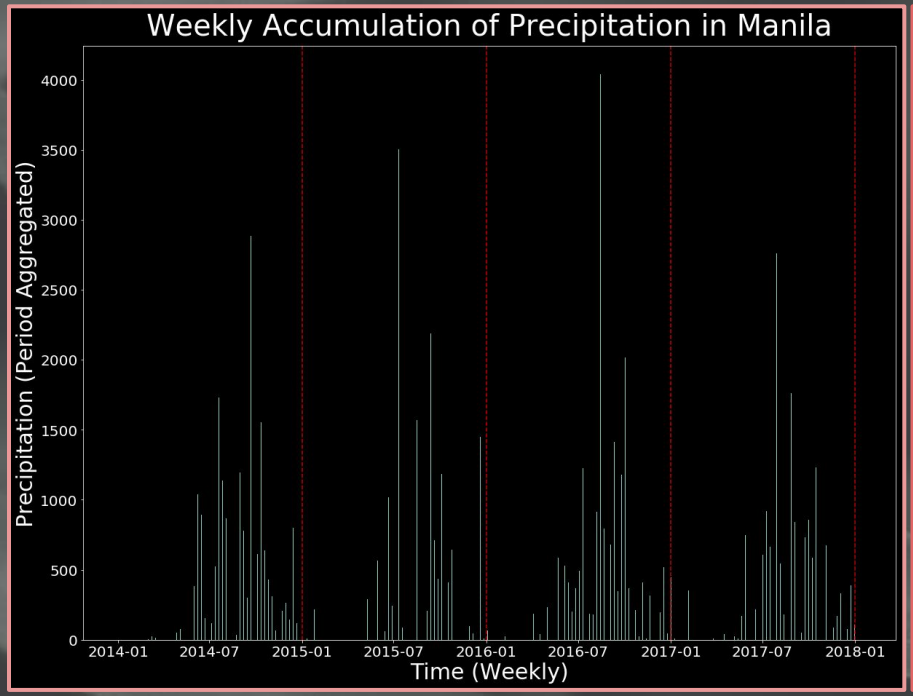


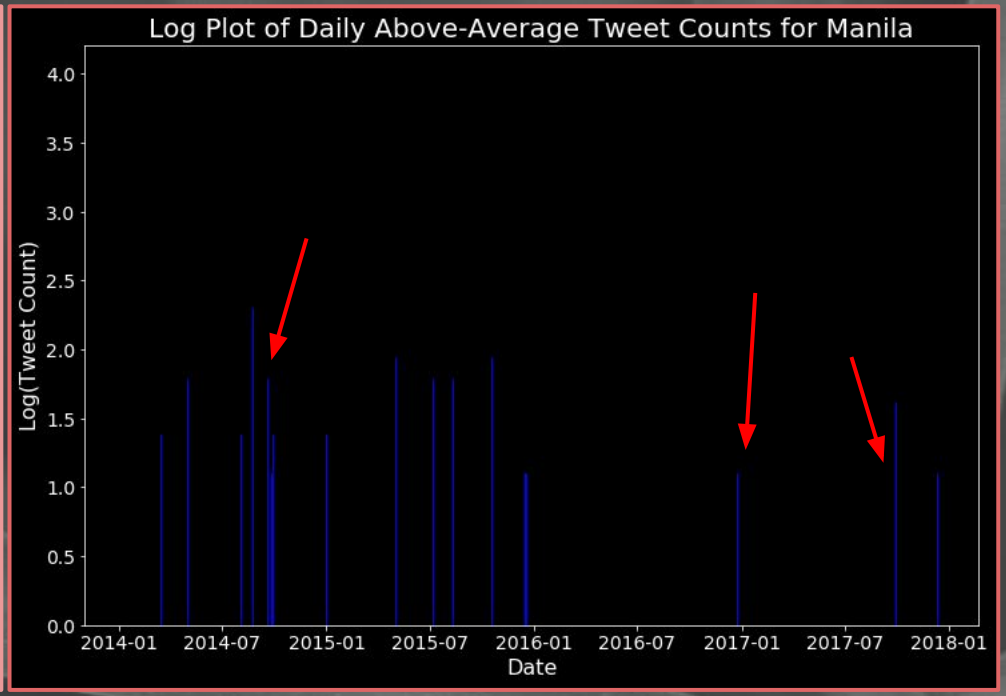


Manila Weather (5+ Year Trend)



Manila Precipitation & Tweets





Next Steps

- Sentiment Analysis on Tweets
- Integrate with government disaster agencies
- Integrate with satellite imagery
- Source from more international weather services
- Source from other social media platforms (i.e. region-specific)

Thank You