Team #1: Citizen Science ML Earth Challenge Integrated Data: Plastic Pollution

Vancouver DataJam 2020

Problem

- Dataset (prototype for a global marine litter baseline)
  - European Environmental Agency's Marine Litter Watch Program,
  - The National Oceanic and Atmospheric Administration's Marine Debris Monitoring and Assessment Project's accumulation report, and
  - Ocean Conservancy's Trash Information and Data for Education Solutions Database.
- Problem
  - Plastic pollution major problem in our environment & oceans (as shown in talks)
  - Our shorelines have many plastics that may end up in oceans and other water bodies
  - Identify hotspots & project plastic accumulation to plan for Clean-up events & volunteers.
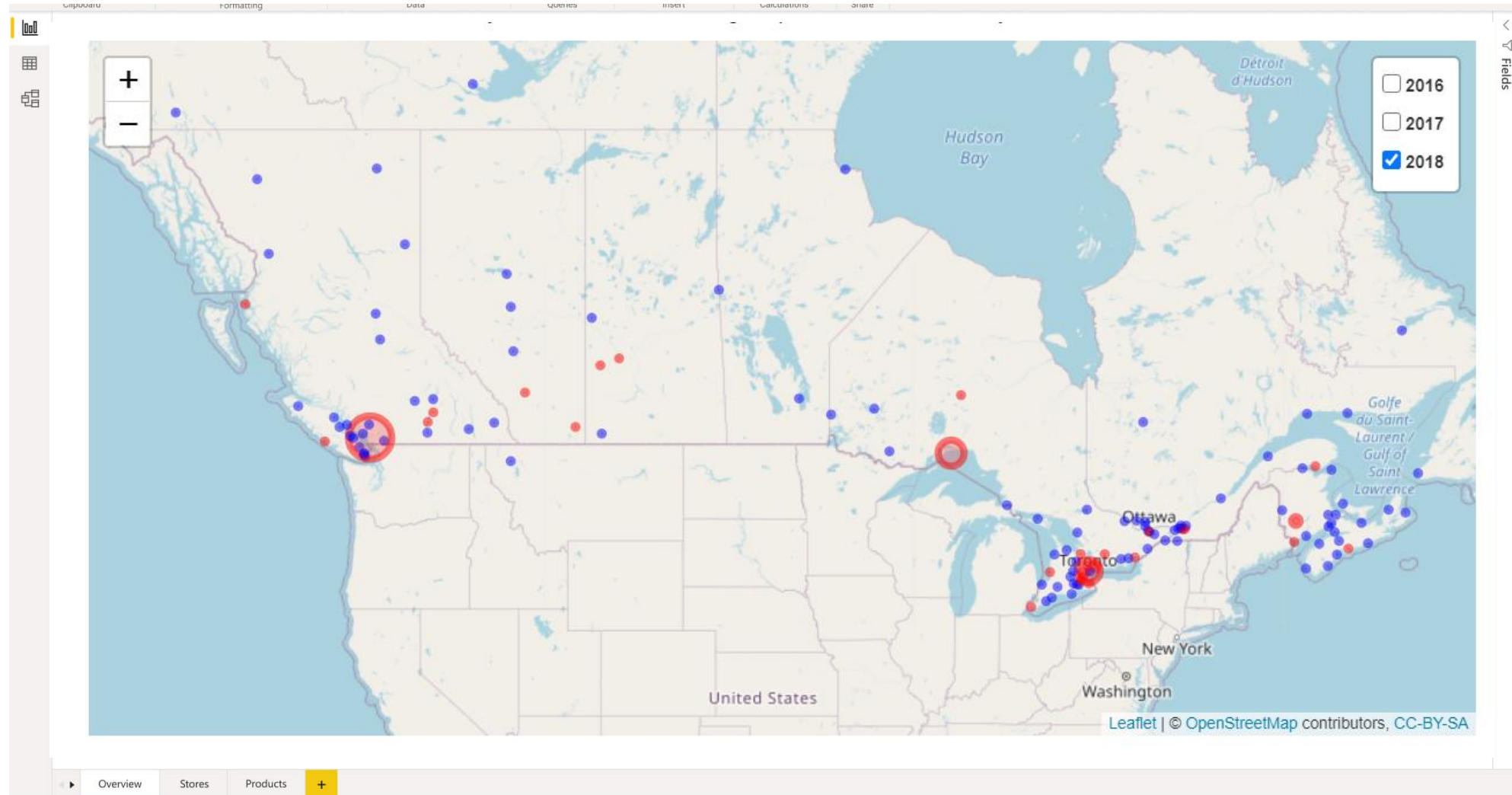
Team

- **Team members**: Lavinia Lau, Nabila Doctor, Tochukwu Okeke, Daniel Lee, Younghyun Kweon & Wilfredo Contreras

- **Mentors:** Matthew Barnes & Priyanka Gagneja
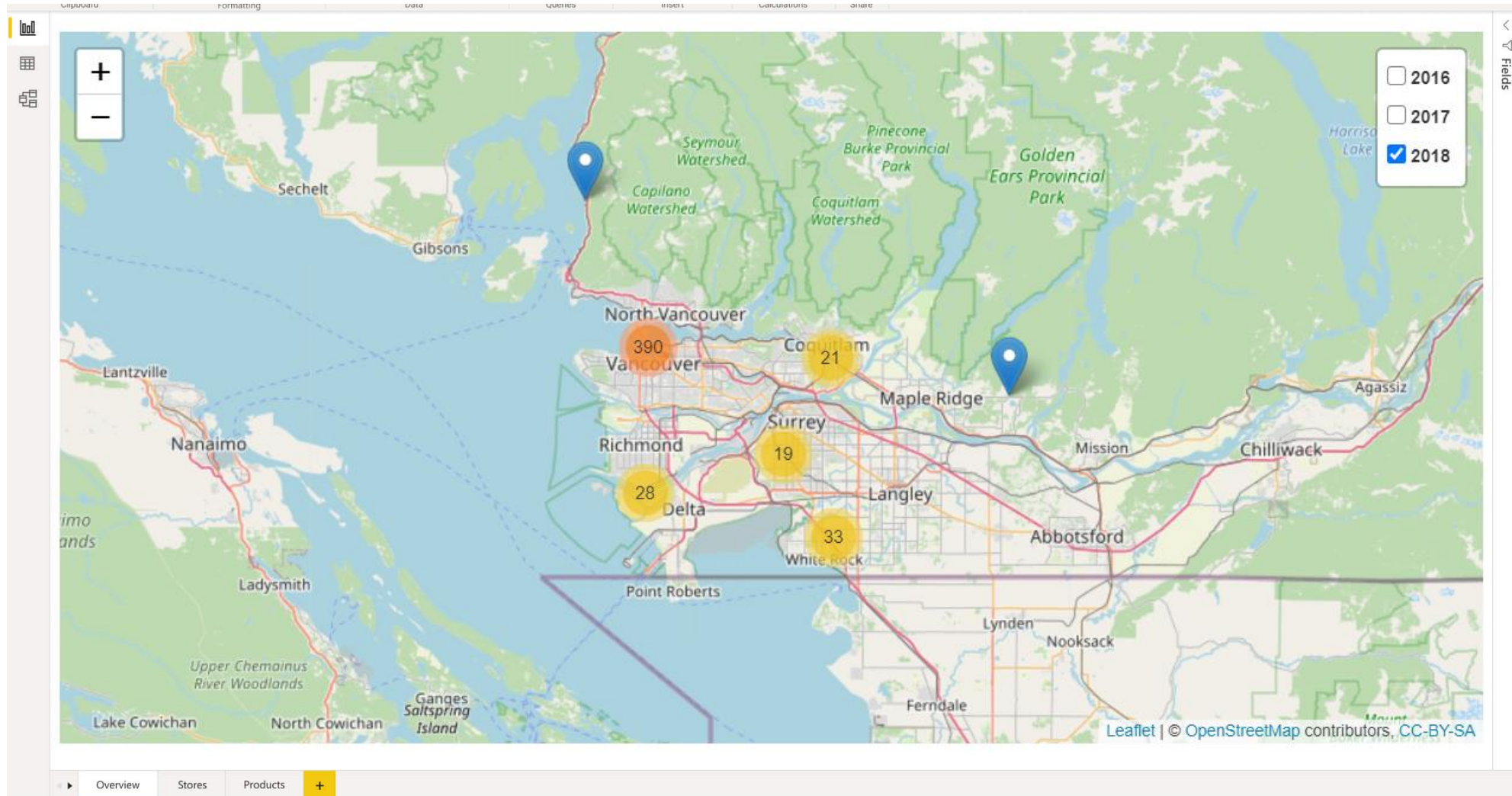
- **Team lead:** Zaid Haddad
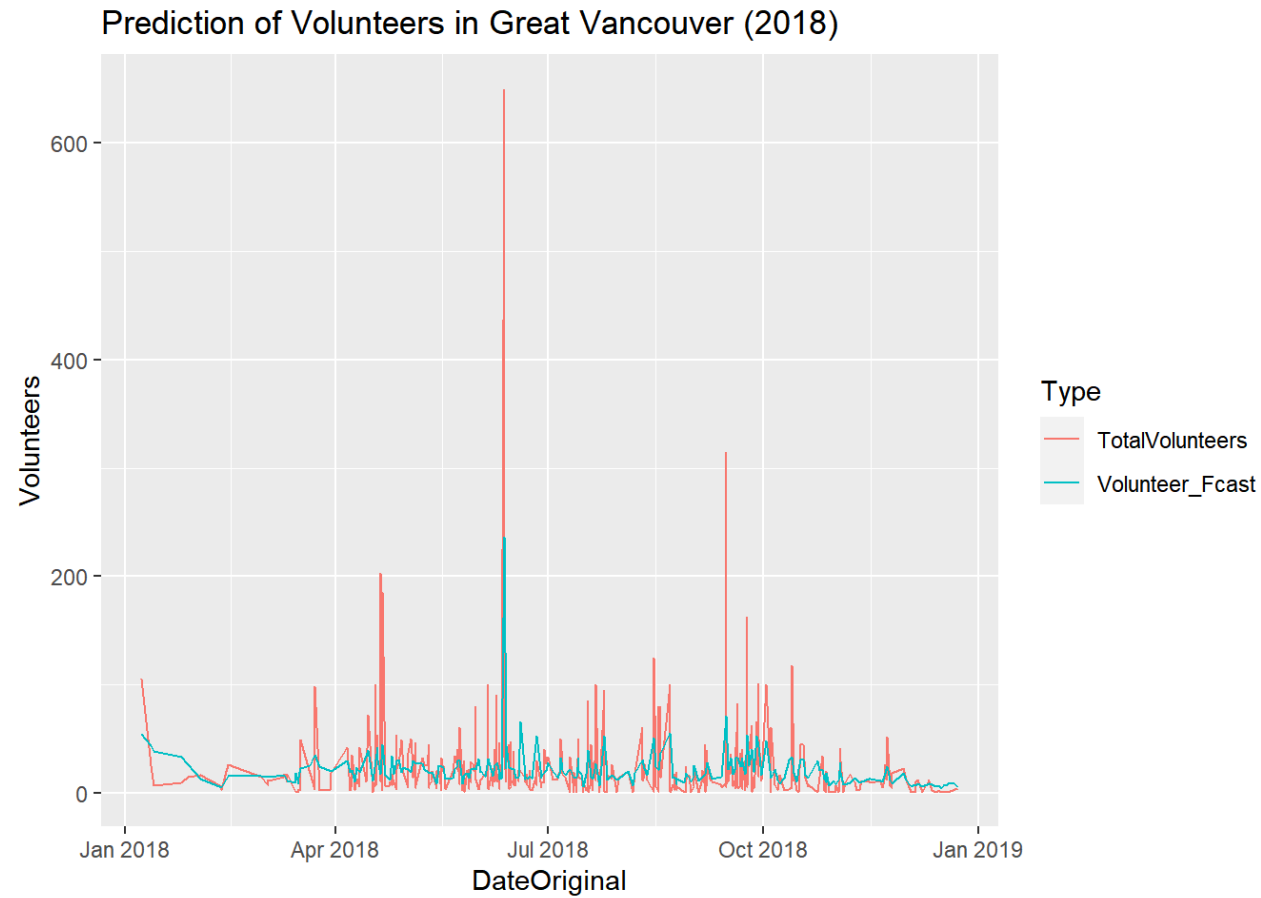
How much Plastic?
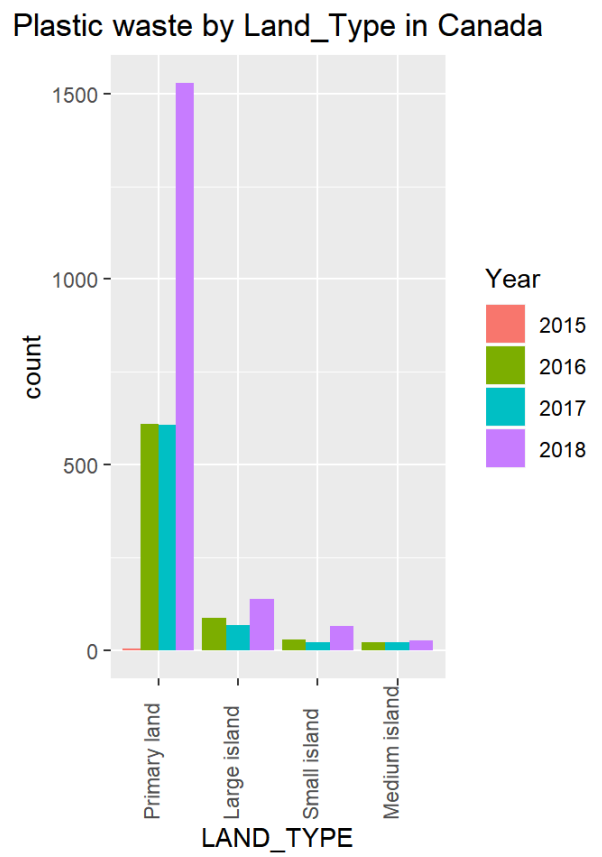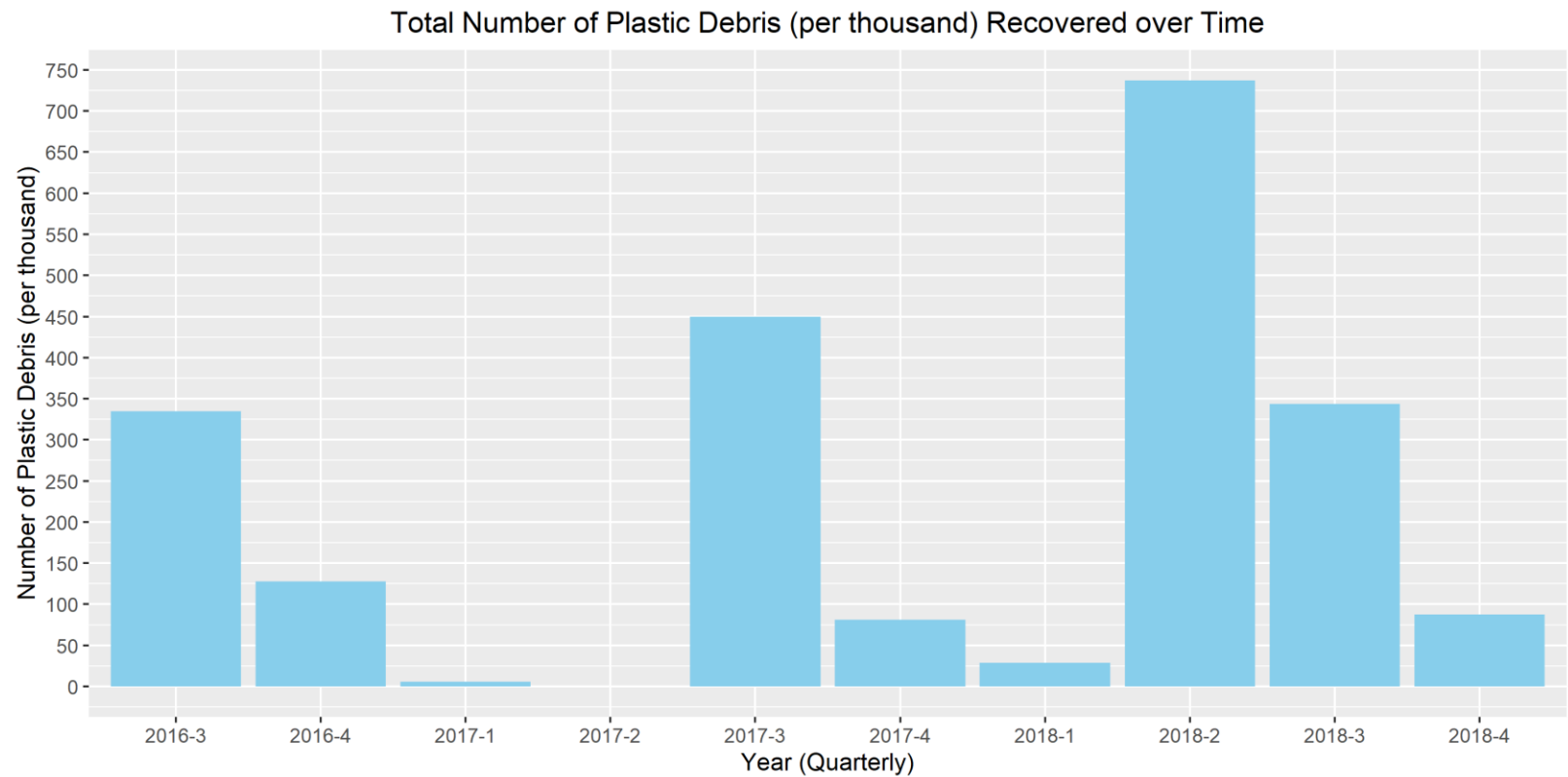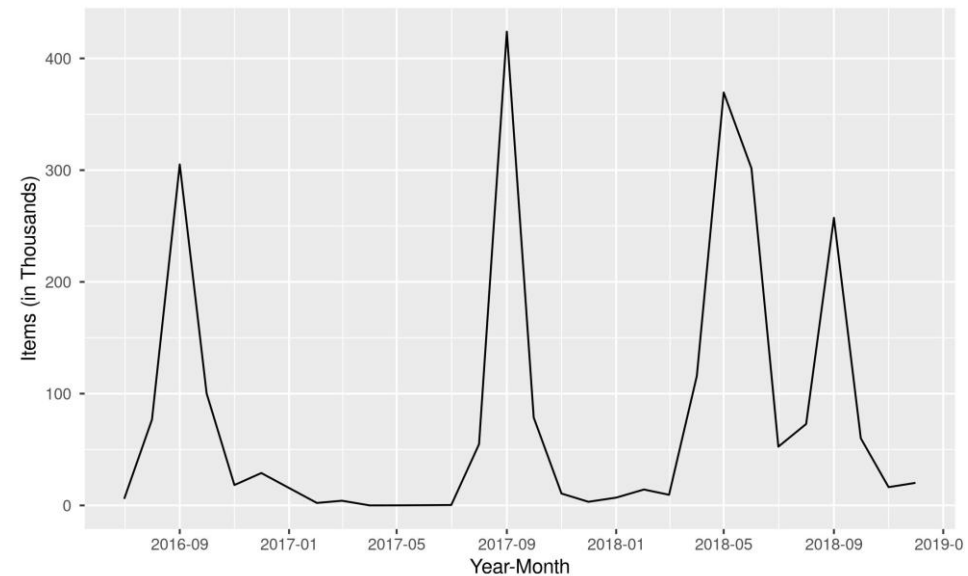
Hot Spots – Interactive app

Interactive App

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Interactive App

Predictive Modelling Attempt

Prediction of Volunteers in Great Vancouver (2018)

Next steps

- More data/time to build an **improved** predictive model forecasting # of resources/efforts for clean-up needed

- **Deploy** as an **App** (Shiny or Power BI) of Hotspot map with predictive modelling features

- Expand **Globally**

References

1. Monitoring and Assessment Project: Get Started Toolbox https://marinedebris.noaa.gov/research/monitoring-toolbox

2. Marine LitterWatch https://www.eea.europa.eu/themes/water/europes-seas-and-coasts/assessments/marine-litterwatch#tab-news-and-articles

3. Earth Challenge Integrated Data: Plastic Pollution (MLW, MDMAP, TIDES) https://cscloud-ec2020.opendata.arcgis.com/datasets/data-earth-challenge-integrated-data-plastic-pollution-mlw-mdmap-tides-?geometry=-90.455%2C-68.714%2C95.170%2C81.701

Thank you! Questions?

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