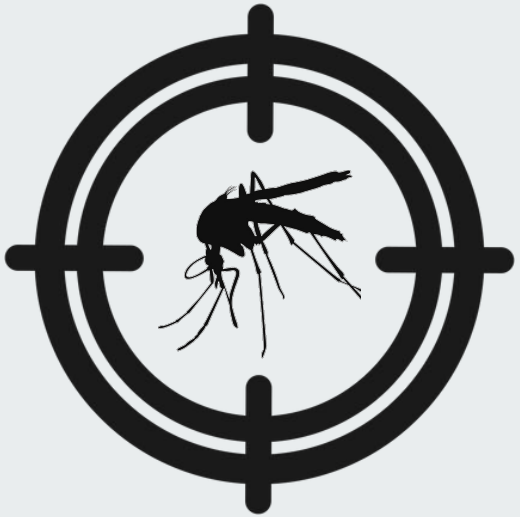
Hack ZIKA

Sep 29 - Oct 7

Cone Nosed Assassins - Alternative solution



Saputro, L

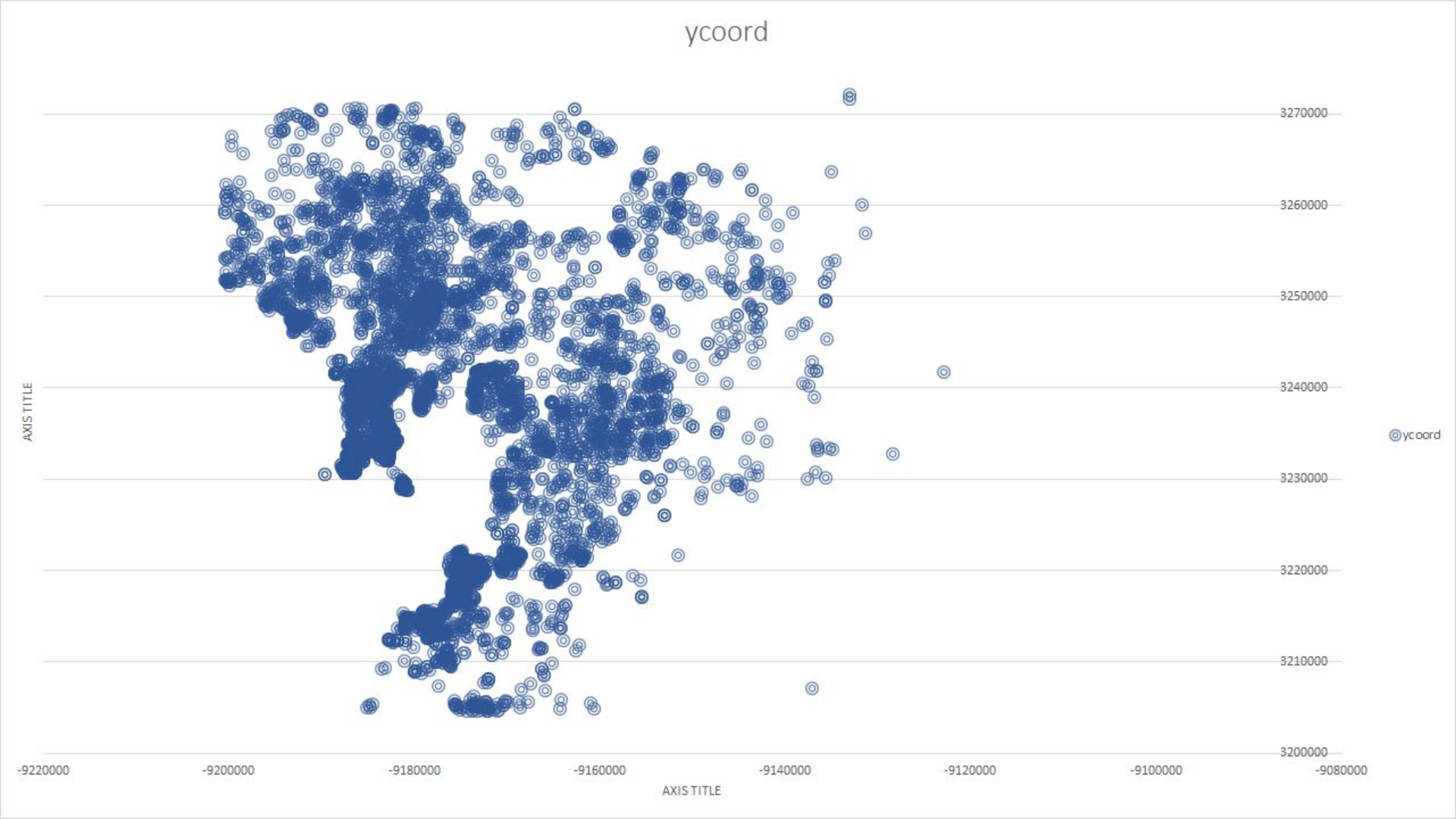
Main Goal

- Control the spread of Zika by spraying.
- With consideration of weather, wind, rain gauge, mosquitos counts, and health reports.

Problems

- Not tightly related one another
- Timeframe constraint
- Inconsistent header names and no relation
- Inconsistent writing style.
- Too many null values

Solutions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Mapping

- Observations
- Reports
- Treatments

Solutions

- Introducing:
  - ZONES (based on coordinates - retrieved from the Mosquitos Observations)
  - Values (rain gauge, landing rates, mosquitos counts)
  - Priority Levels
    - P1 - Critical
    - P2 - High
    - P3 - Medium
    - P4 - Low

Pipeline

Pipeline

- Retrieve the zones based on the mosquitos observations.
  - Count the zones, to set Priority. The higher the counts, the higher the priority.
- Train and test on the zone dataset.
- Test on the Human Health Report coordinates > Predict the Zone > Set Priority.
- ~~Use the new test data (coordinates of x and y in Rain Gauge and Landing Rate, from AdultSurveilanceLocations) to predict the zone.~~
  - ~~Rain Gauge value (inches)~~
  - ~~Landing rate (counts)~~
    - ~~These two will be counted, to set the Priority.~~
- Results:
  - Zone and Priority (Last Output)
    - “ZONES number: XX turns into P1 - CRITICAL status because there is a CONFIRMED case of XX virus”

Disadvantages

- Disregard the division of Zone A and B.
- Unsuitable predictions with the real area (polygons)
- Deviations in predictions.
- Dismiss some the Null values, which may contain important value.
- Disregard the timeframe.
- Priority threshold.

Suggestions

- Maintain a decent form for the officers to put all the data correctly.
- Relate those data with main key.
- Consistency and description for header.

Conclusions

- Integration is a must.
- More time is required.

Thank you

Q & A