

# Traffic crashes in Chicago

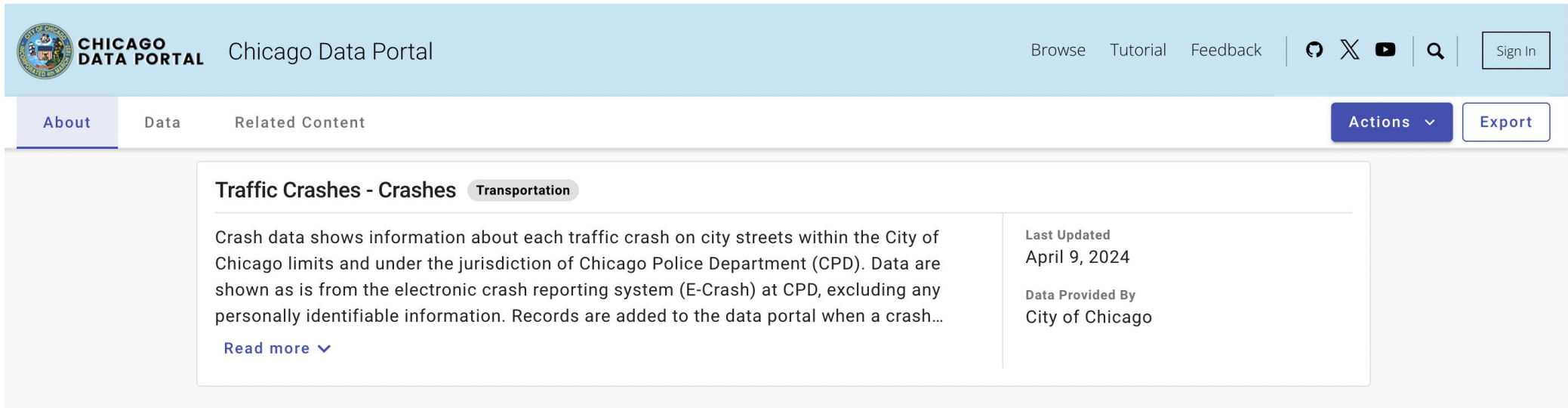
**By: Olivia Pardo, Isabel Heard, Zach Bergler  
& Maddie DeLaRosa**

# Research Question

- What months are car crashes more common?
- Where in the city are there more crashes than normal?
- Where in the city are there less crashes than normal?
- Where are there outliers in the city?



# Data

- Data collected from the City of Chicago's Data Portal
  - o [https://data.cityofchicago.org/Transportation/Traffic-Crashes-Crashes/85ca-t3if/about\\_data](https://data.cityofchicago.org/Transportation/Traffic-Crashes-Crashes/85ca-t3if/about_data)
- Transportation Data --> Crashes



The screenshot displays the Chicago Data Portal interface. At the top, the header includes the City of Chicago logo, the text 'CHICAGO DATA PORTAL', and the title 'Chicago Data Portal'. Navigation links for 'Browse', 'Tutorial', and 'Feedback' are present, along with social media icons and a 'Sign In' button. Below the header, a secondary navigation bar features 'About', 'Data', and 'Related Content' tabs, with 'About' currently selected. To the right of these tabs are 'Actions' and 'Export' buttons. The main content area is titled 'Traffic Crashes - Crashes' with a 'Transportation' tag. It contains a descriptive paragraph about the crash data, a 'Read more' link, and a sidebar with 'Last Updated' (April 9, 2024) and 'Data Provided By' (City of Chicago) information.

**CHICAGO DATA PORTAL** Chicago Data Portal

Browse Tutorial Feedback |   Sign In

About Data Related Content Actions Export

### Traffic Crashes - Crashes Transportation

Crash data shows information about each traffic crash on city streets within the City of Chicago limits and under the jurisdiction of Chicago Police Department (CPD). Data are shown as is from the electronic crash reporting system (E-Crash) at CPD, excluding any personally identifiable information. Records are added to the data portal when a crash...

[Read more](#) ▼

Last Updated  
April 9, 2024

Data Provided By  
City of Chicago

# Data Cleaning

- Remove null values in longitude & latitude
- Looking at only 2023
  - January 1st , 12:00am, 2023 to December 31st , 11:45pm, 2023
- Delete outliers (middle of Atlantic ocean)

# Crashes in Chicago

109,690 total crashes in 2023

Total crashes per month:

January – 8,039

February – 8,030

March – 8,808

April – 8,933

**May – 10,039**

June – 9,499

July – 9,437

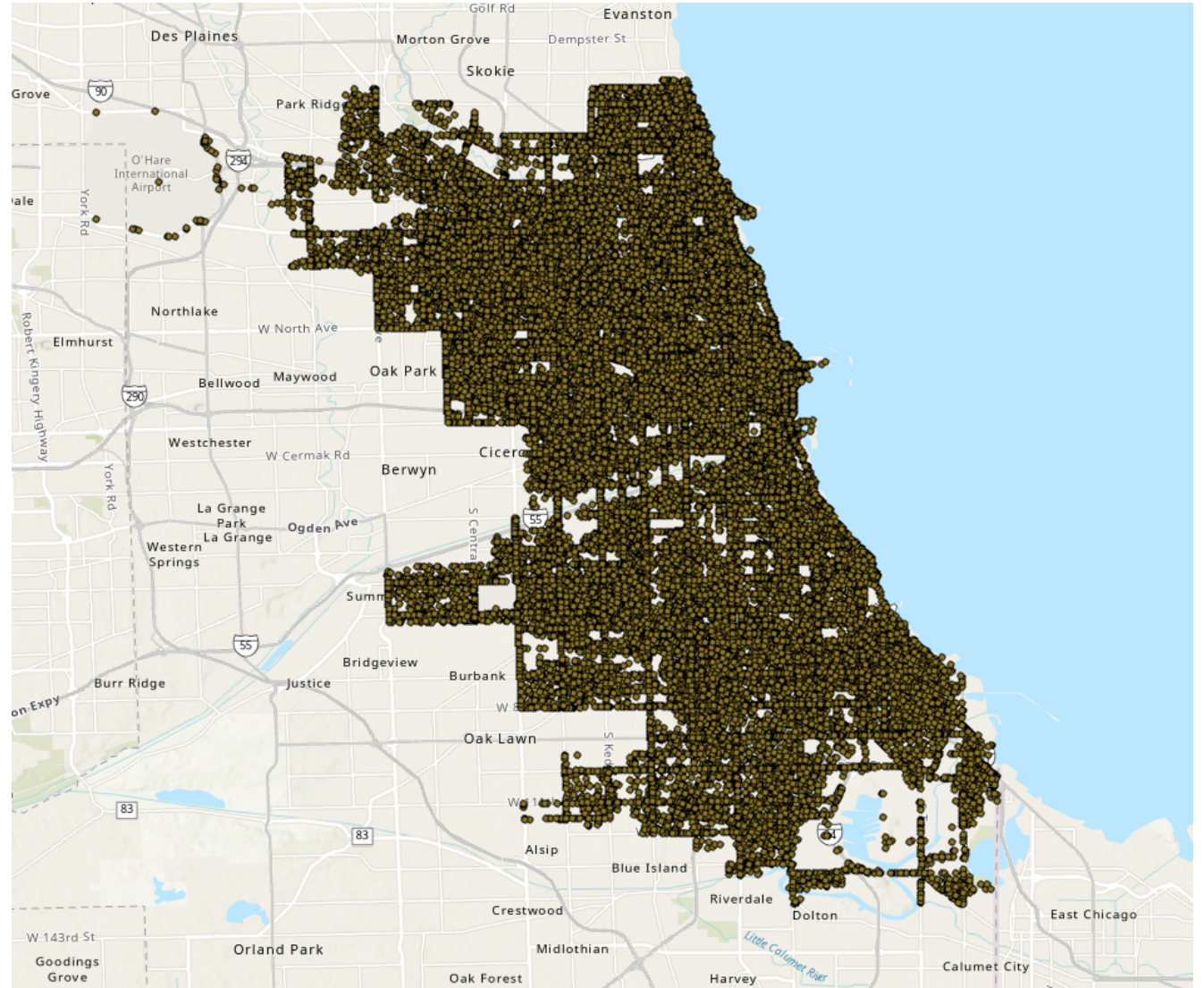
**August – 9,687**

September – 9,530

**October – 9,993**

November – 8,671

December – 9,024

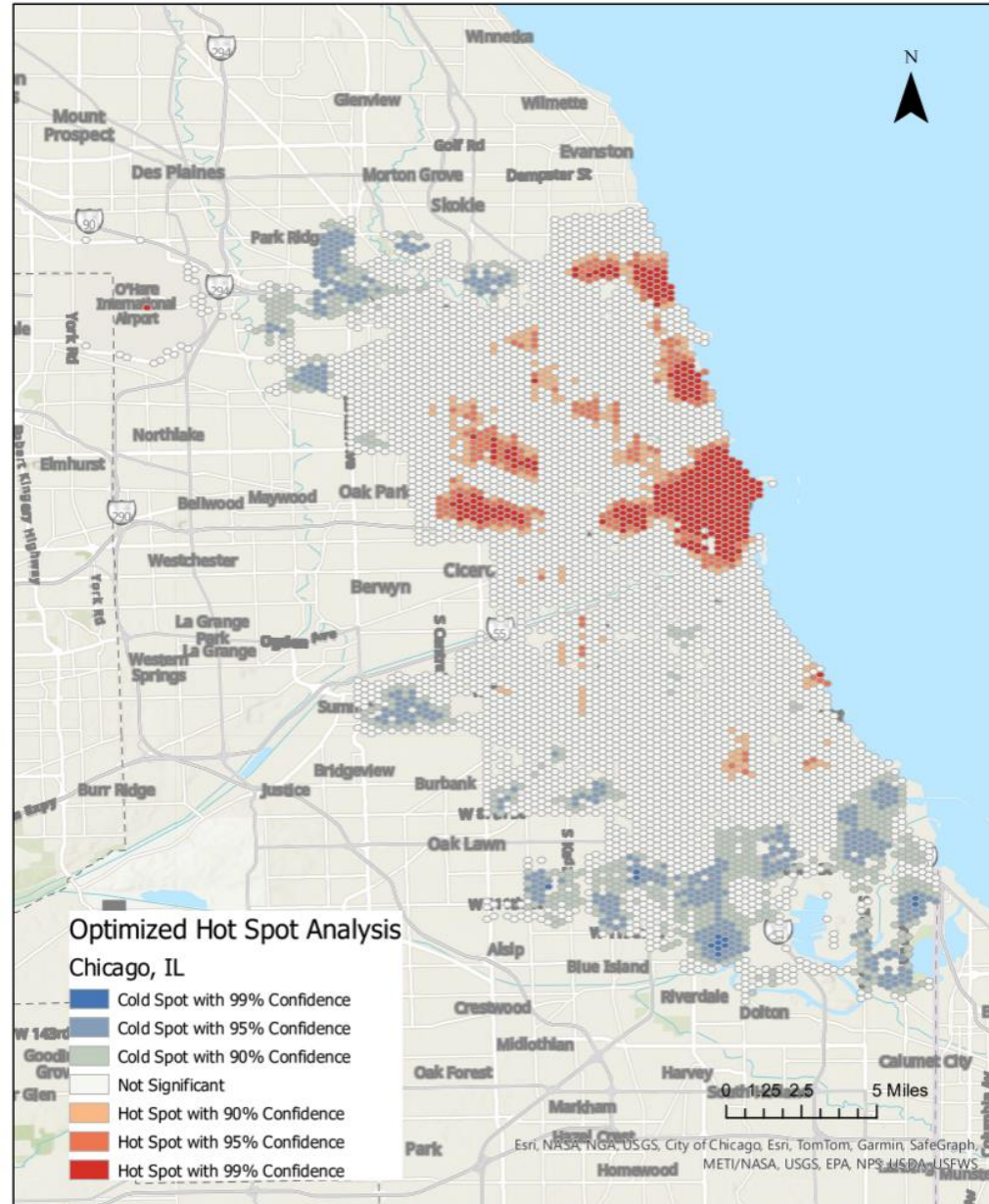


# Methods & Analysis

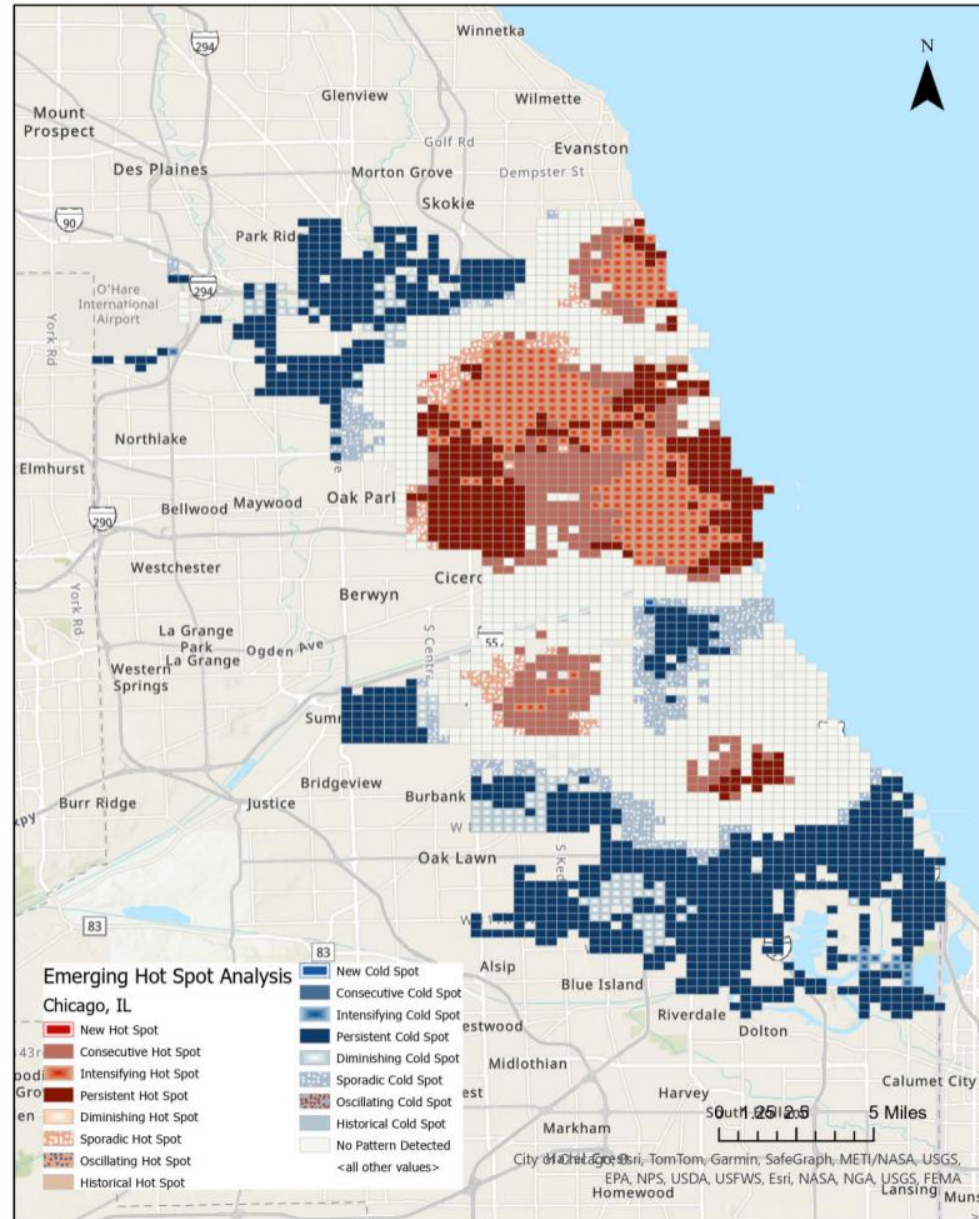
1. Projected data
2. Created space-time cube by month
3. Optimized hot spot analysis
4. Emerging hot spot analysis
5. View in 3D local scene
6. Analyze hot/cold spots and outliers



# Optimized Hot Spot Analysis of Car Accidents in Chicago, IL 2023

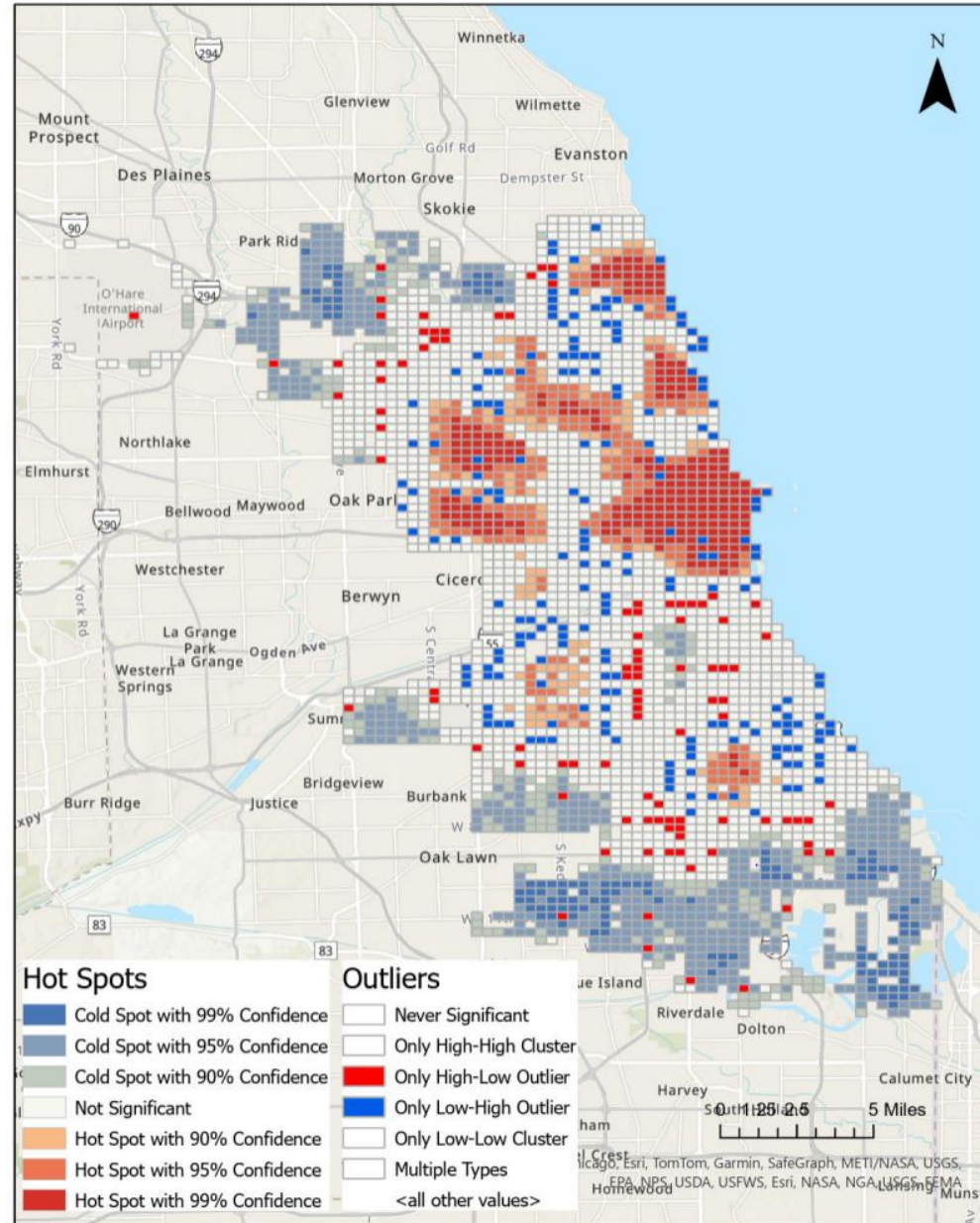


# Emerging Hot Spot Analysis of Car Accidents in Chicago, IL 2023

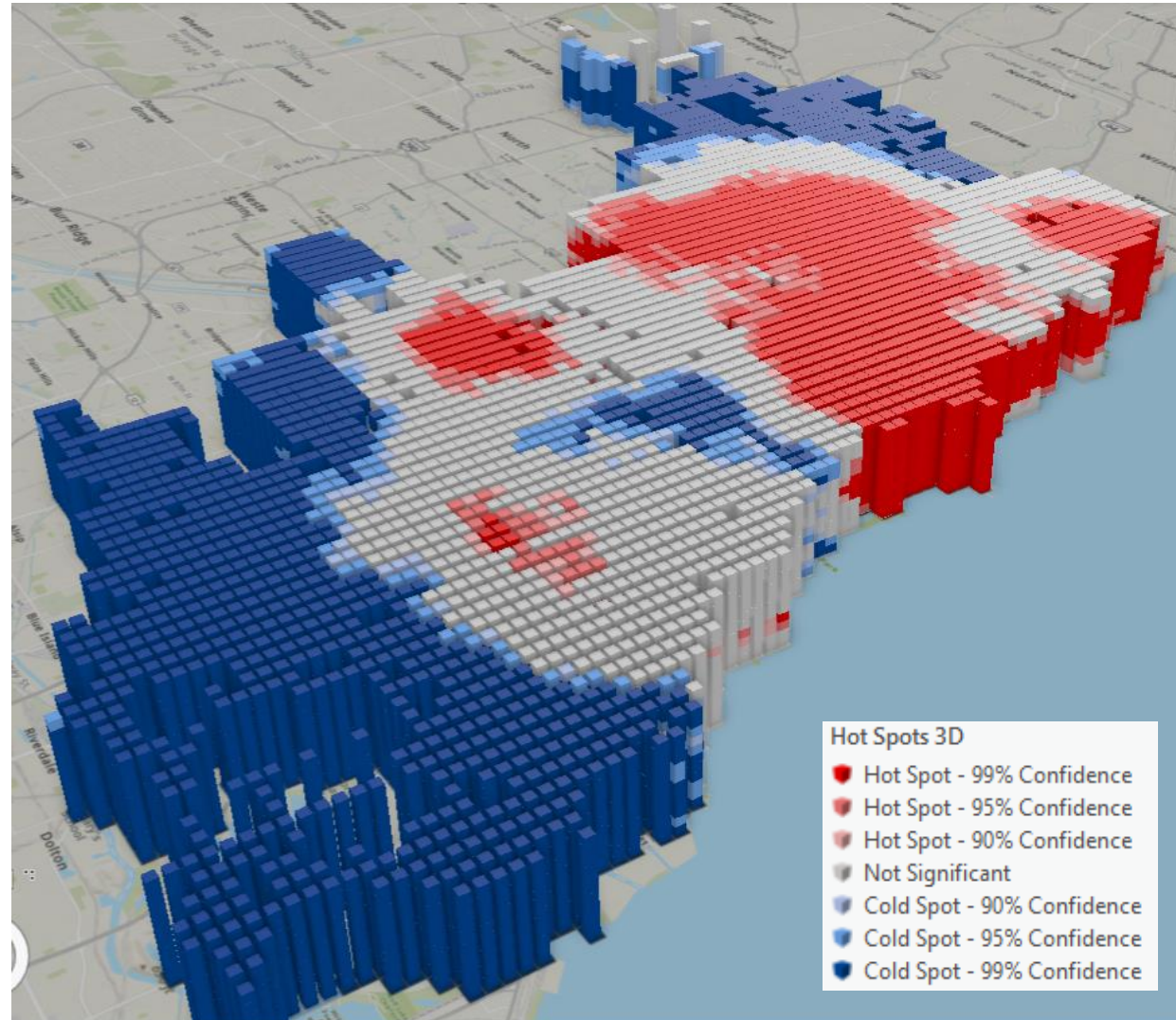




# Car Accident Hot Spots & Outliers in Chicago, IL 2023

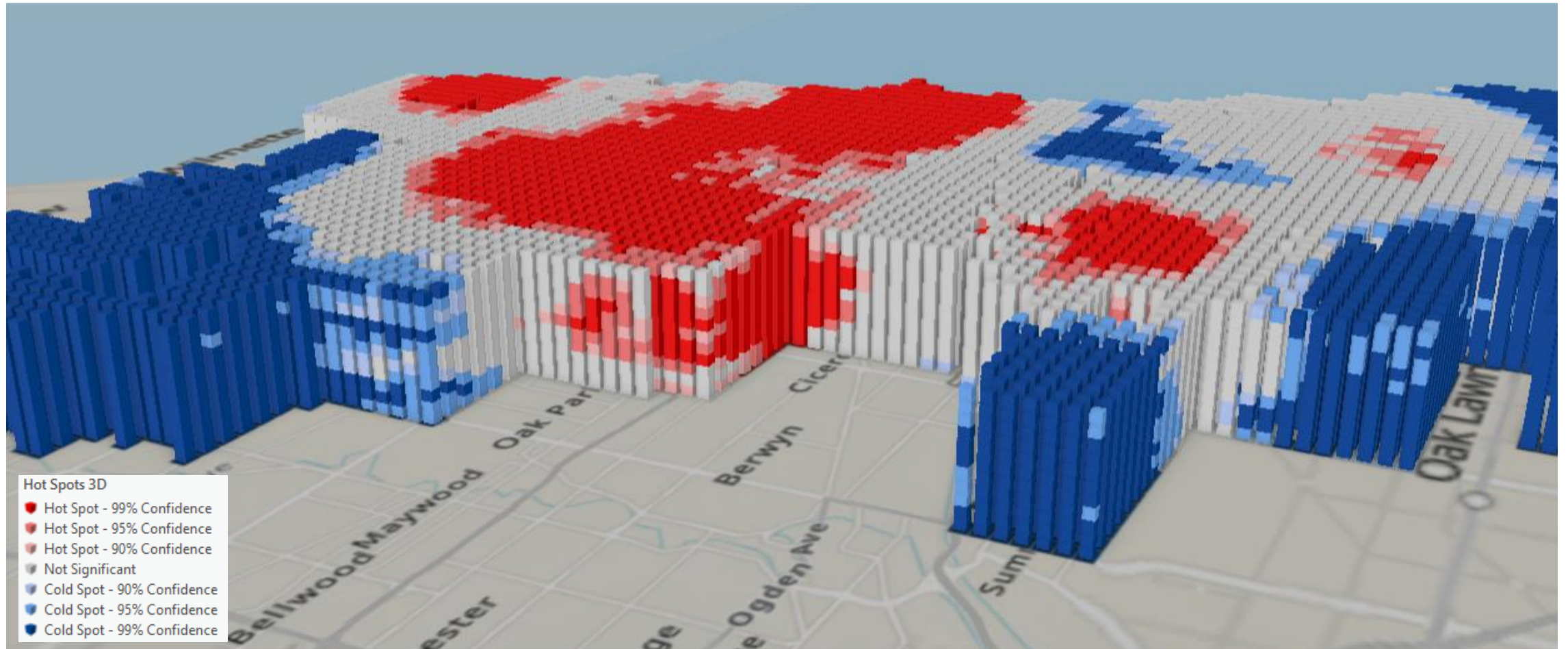


# 3D Hot Spot Analysis – Lake Shore Drive

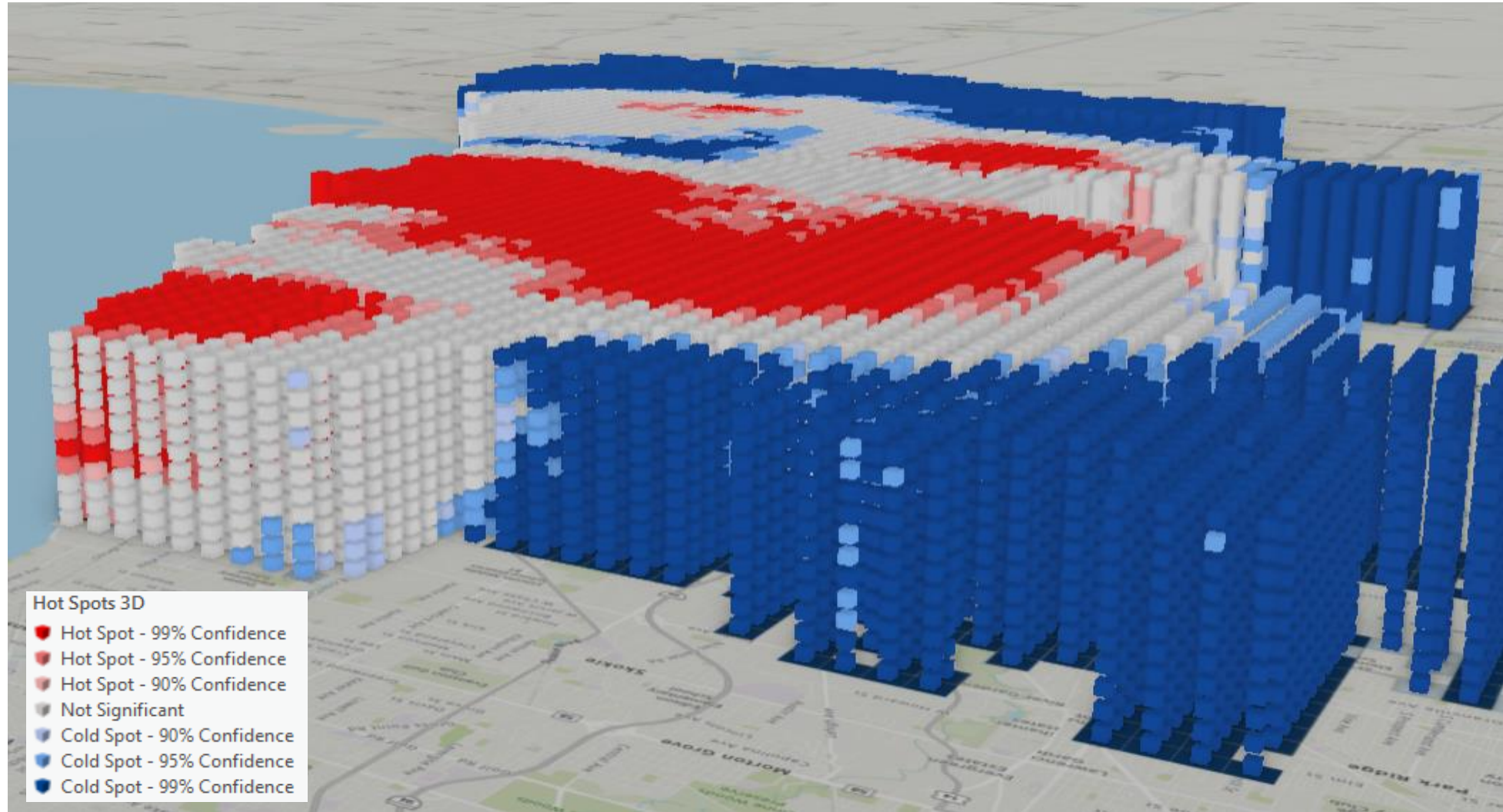




# 3D Hot Spot Analysis – Eastern View

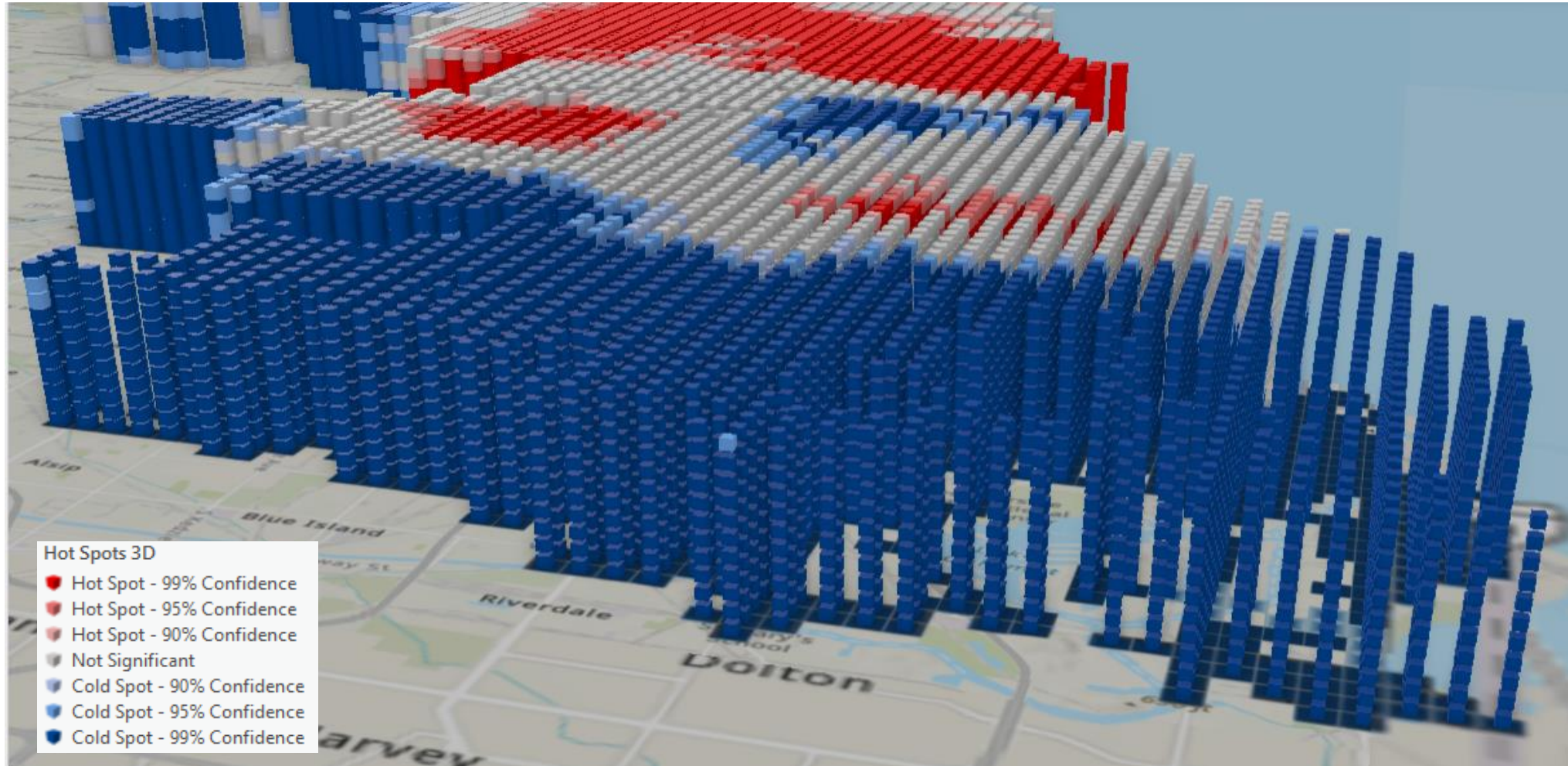


# 3D Hot Spot Analysis – Northern View





# 3D Hot Spot Analysis – Southern View





# Conclusions

- No patterns found in the monthly timing of car crashes.
- Patterns in the location of car crashes:
  - Hotspots in the northeast, downtown, and central areas of Chicago all with high confidence levels.
  - Cold spots downtown to the east, on the westside, and throughout the southside of Chicago all with high confidence levels.
- Further research; hourly and weekly instances of car crashes.