

A NEW WAVE OF DESTRUCTION

Presented by: Jocelyn Lutes,
Quinton Lopez, Uriel Eckmann

TABLE OF CONTENTS

01 INTRODUCTION

PROBLEM STATEMENT

02 PRESENTATION

OVERVIEW OF WORKFLOW

03 CONCLUSION

RECOMMENDATIONS

01

PROBLEM STATEMENT

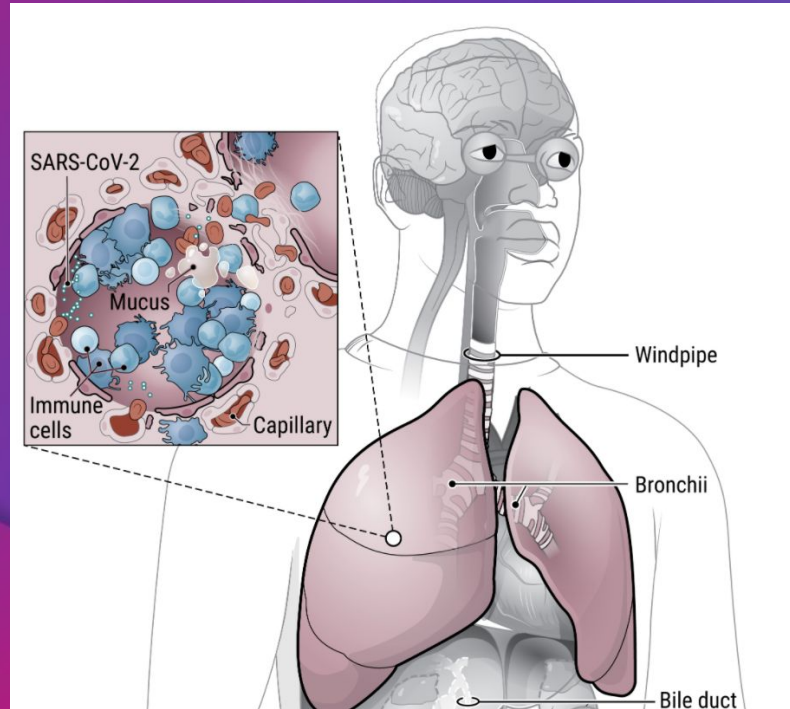
PROBLEMS

- Emerging COVID-19 disease
- Destructive climates
- Increased risk

HURRICANE KATRINA



COVID-19



02

PRESENTATION

WORKFLOW **TIMELINE**

OBTAIN/CLEAN DATA

MODELING



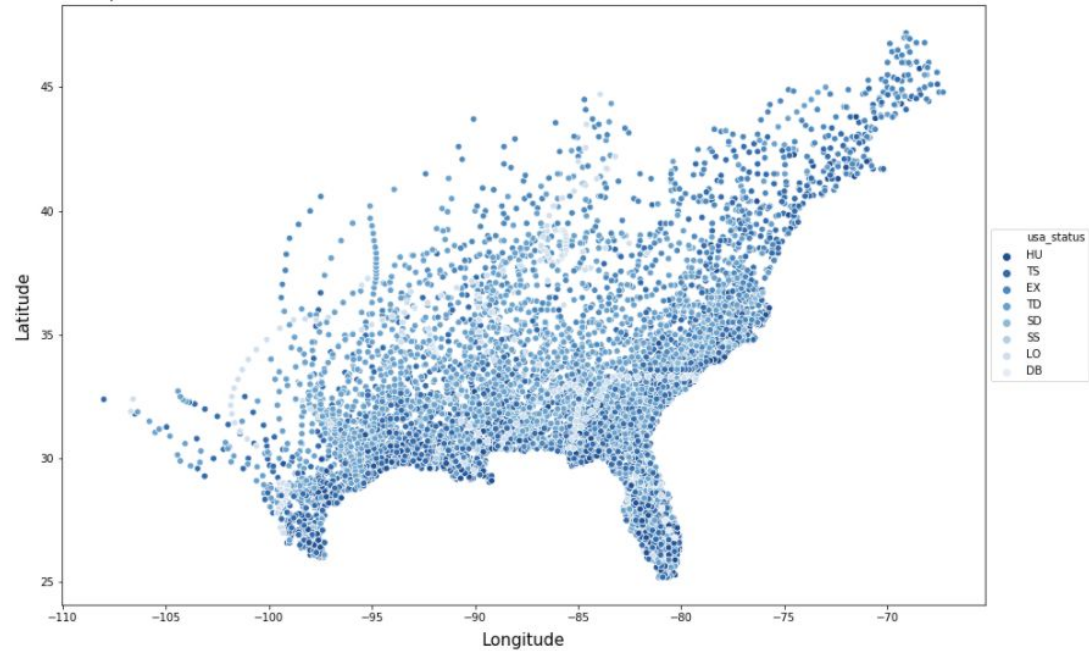
OBTAIN/CLEANING DATA

- Data Sources
- Renaming Columns
- Combining Data Frames

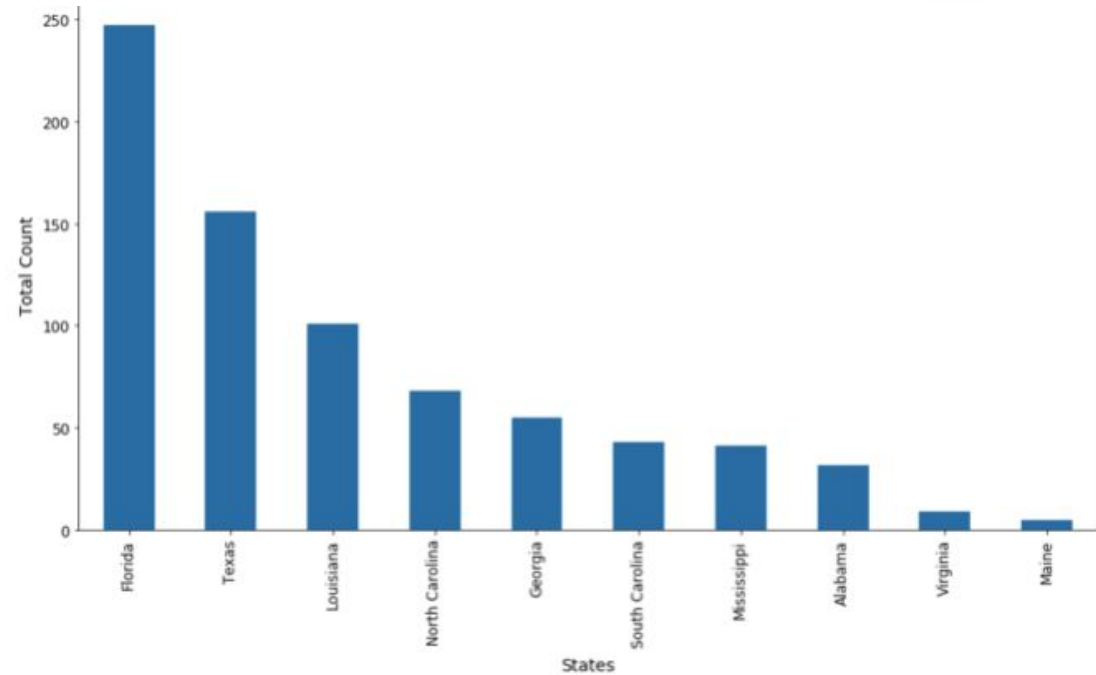
EXPLORATION

- Geocoding
- Visualizing

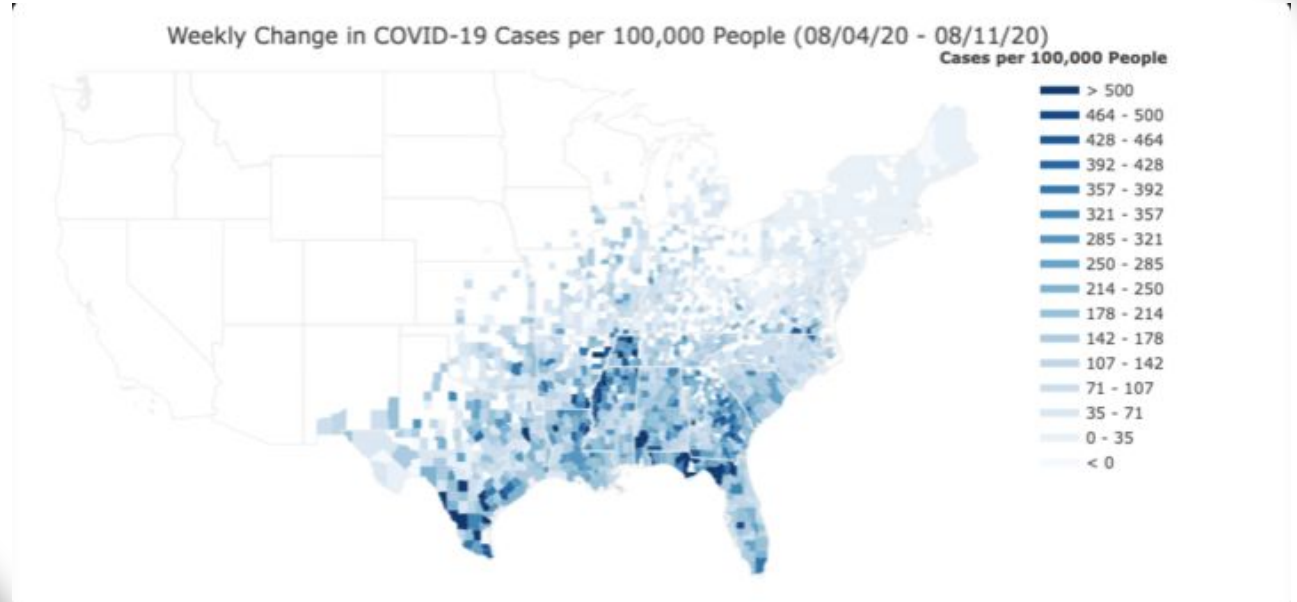
TROPICAL STORM PATH (1851-2020)



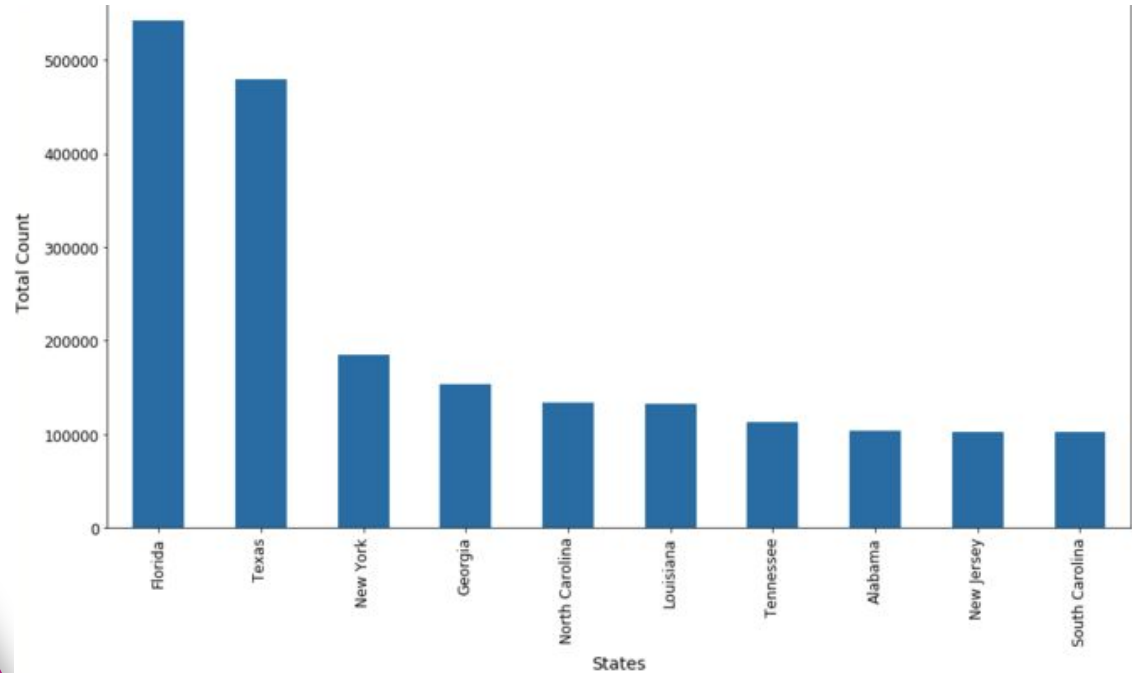
TOP TEN HURRICANE STATES



RATE OF CHANGE IN COVID-19 (PER 100,000)



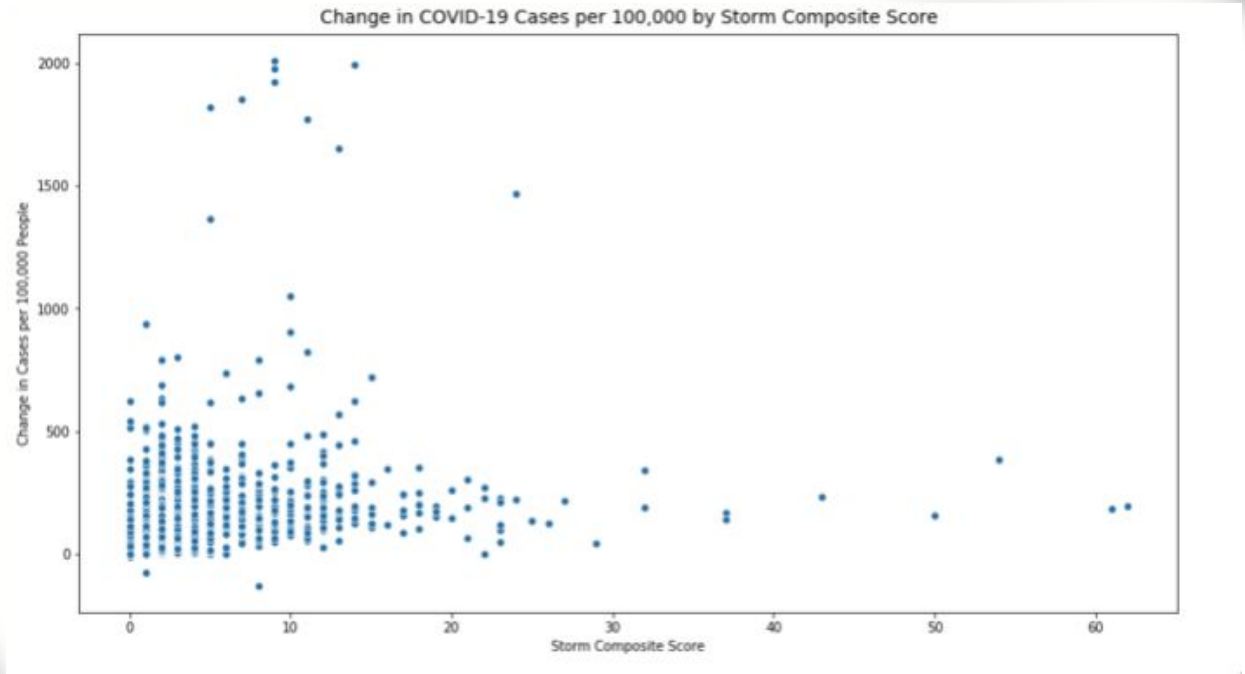
TOP TEN COVID-19 STATES



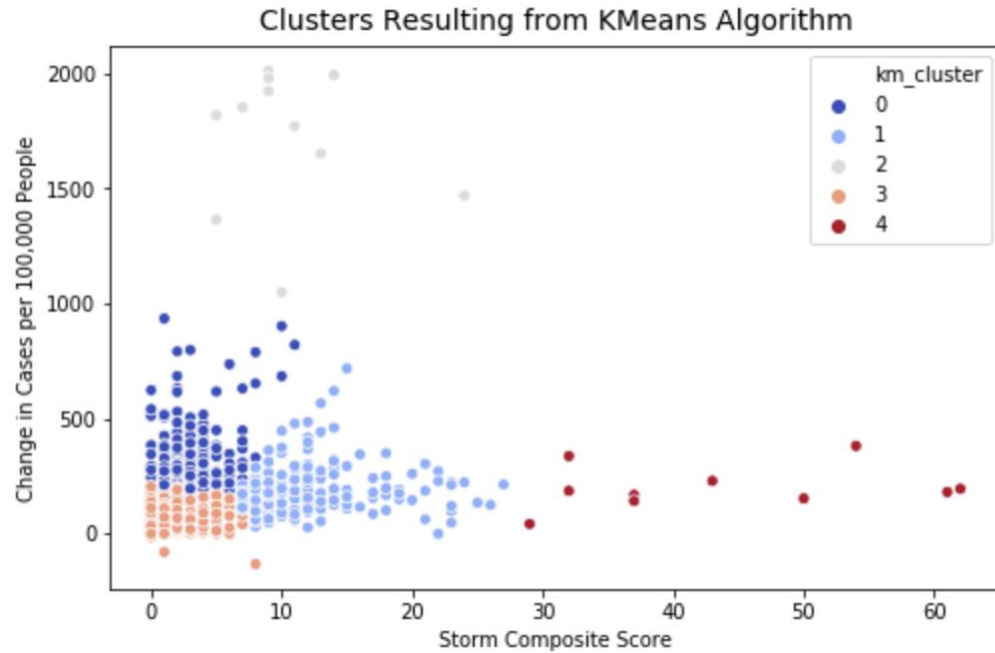
MODELING

- Clusters
- DBSCAN

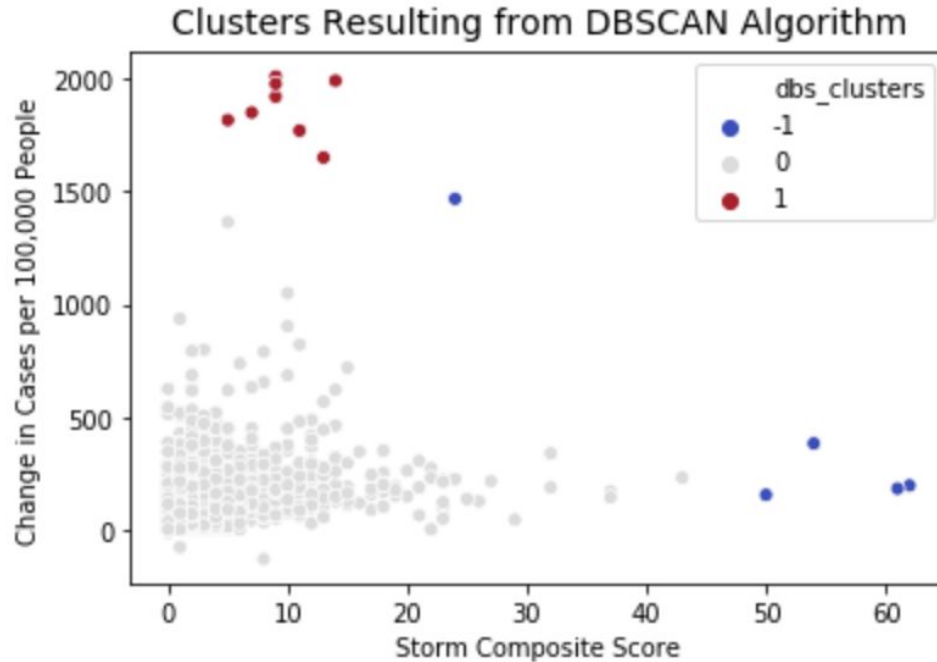
RAW DATA



CLUSTERING KMEANS



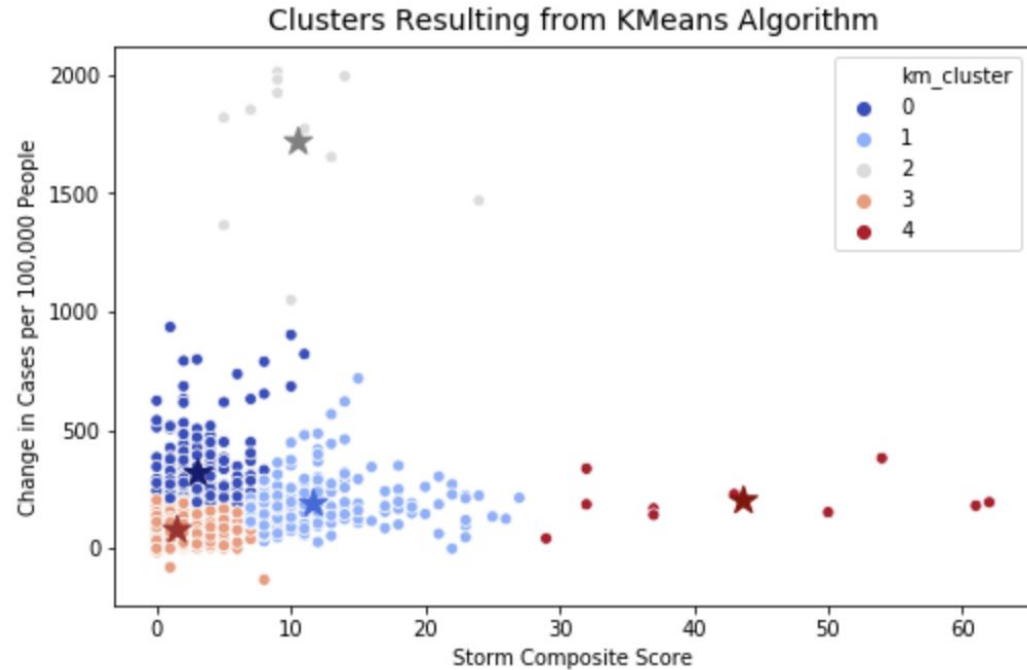
CLUSTERING DBSCAN



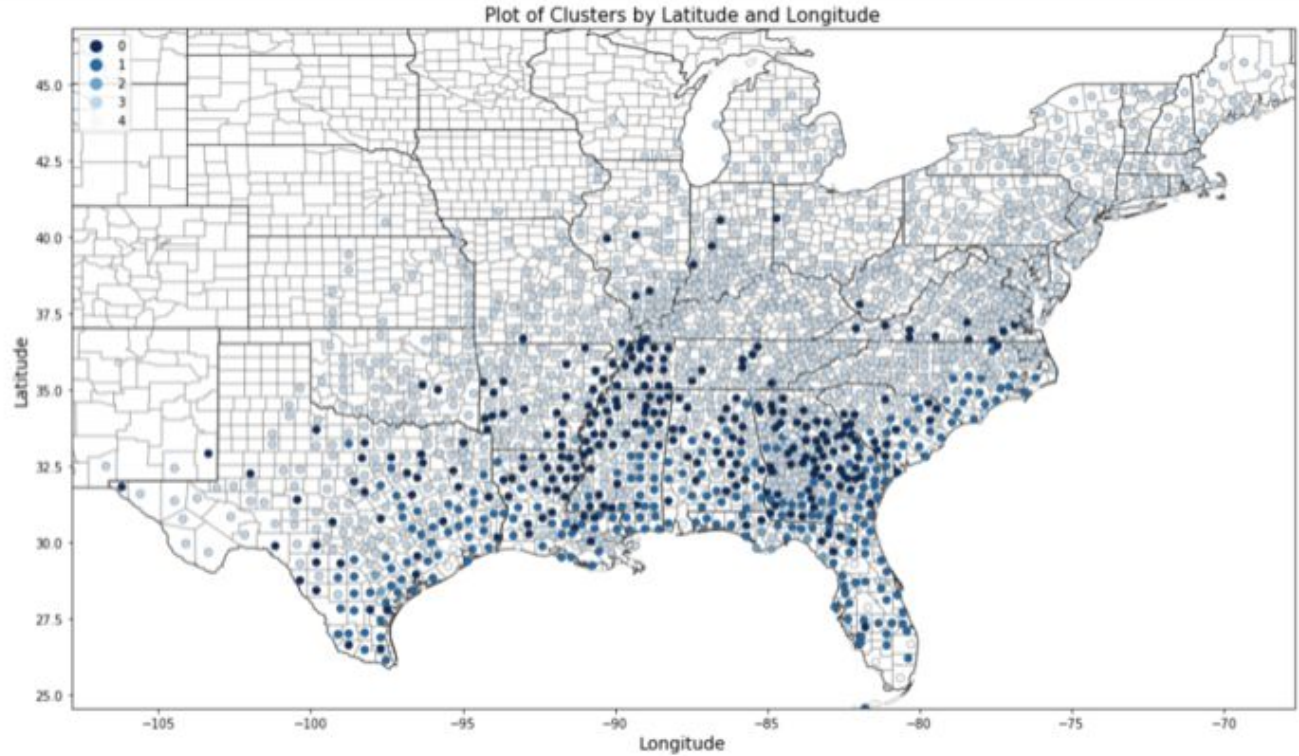
MODEL SELECTION

NUMBER OF CLUSTERS		SILHOUETTE SCORE
CLUSTERS	5	0.526
DBSCAN	2	0.861

CLUSTERING KMEANS



PLOT OF CLUSTERS LAT/LONG MAP



Cluster	Storm Risk	COVID-19 Risk	Red-Zone
0	Low	Moderate	Yes
1	Moderate	Low	Yes
2	Moderate	High	Yes
3	Low	Low	No
4	High	Moderate	Yes

03

CONCLUSION

CONCLUSION

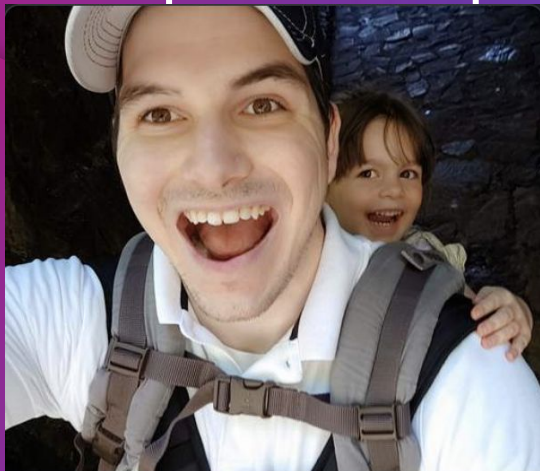
- Identified clusters, but significance difficult to interpret
- Geographic risk of hurricanes
- COVID-19

RECOMMENDATIONS

- Danger of COVID-19
- Improving data diversity
- Financial impact comparison

OUR TEAM

URI ECKMANN



DSI-12-The Matt
Student

JOCELYN LUTES



DSI-12-The Matt
Student

QUINTON
LOPEZ



DSI-12-The Matt
Student