How COVID-19 Risks Exacerbate Natural Disasters

FEMA Response Teams

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Problem Statement

THE DATA SCIENCE PROBLEM: Can we create a machine learning model that accurately predicts geographic areas that will have an overburdened medical infrastructure in 2020-2021 considering earthquakes, wildfires, and weather-created natural disasters, in light of COVID-19?

ACTION: Attempt to create a Dashboard that can drill down to the county level that reveals a visually comparative look at the risks of natural disasters and COVID-19

Data Sources

- NOAA- StromEvents Data
- USGS- Earthquake Data
- COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University
  - https://github.com/CSSEGISandData/COVID-19
- https://github.com/nytimes/covid-19-data
- Google BigQuery
- https://covid19.healthdata.org/united-states-of-america

Tableau

https://public.tableau.com/profile/eric.laverdiere#!/vizhome/1hjhvfgc5644Covid/COVID

Conclusion

- Our dashboard is easy to use and interpret the overlapping danger zones
- Easy for NGO or government to see where medical assistance is needed
- For example rural Georgia, the Mississippi Delta, and South Texas are currently seeing an uptick in COVID deaths, under tornado threat, & in the height of hurricane season
- Likewise wildfires continue to hit Arizona as Covid cases there increase.

Next Steps

- Attain more detailed and regionalized data for hospital capacity
- Add seasonality through time series data to our model
- Include Winter Storms
- Create a clustering algorithm defining where more resources are needed for hospitals
- Provide these resources preemptively

ANY QUESTIONS?

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