PFAS/Teflon where is it?

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ABSTRACT

The goal of our data analytics capstone project is to see any trends or anything that will allow us to find where pfas/teflon in GA have been and will be. This will allow us to show any future sites that may have pfas in the water system. We are using previously found data to find any correlation to possible sites that may have been overlooked. Our data sets have two primary focus areas: those being the actual chemical compound of Teflon and the factories. We will be pooling our data to make an interactive website that will locate any future sites. We can do this by tracking the factories that cause the most pollution, and also revisiting the sites that had a null value for the water containment level. We as a team have decided to take certain roles within the project, David focused around being the data modeler and visualizations a data modeler worked on implementing the databases and working with the data structures. Andres focused on being the data analyzer which focused on putting in the algorithms for our data bases while also working on visualizations as well, visualizations focused on implementing visuals do the data.

HYPOTHESIS

- We have multiple hypothesis for our project
- See if there are chemicals from dumping that hints the future expose of pfas into the water
- See if there is a growth in people exposed to pfas in contaminated locations
- To see if there is a correlation between the number of facilities and the population of each county in GA
- To see where the most traces of pfas occurred within the state of GA

EXPERIMENTAL APPROACH

We used jupyter notebook, deep note ,and tableau to compile our data and test K means and linear regression algorithms. These graphs allowed me to visualize our data better for a clearer picture.

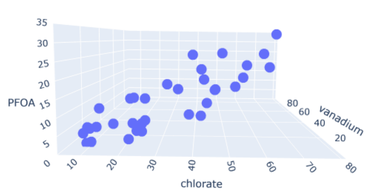

FIGURE 1

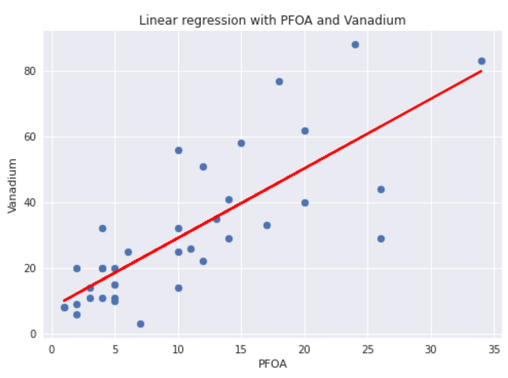

FIGURE 2

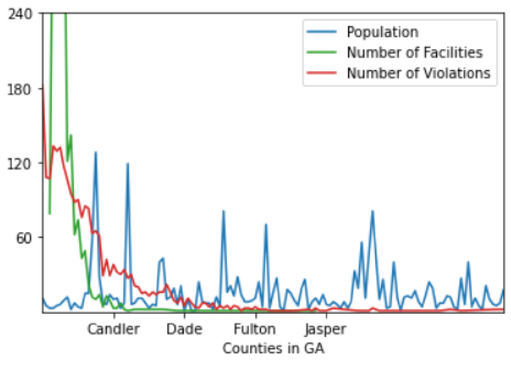

FIGURE 3

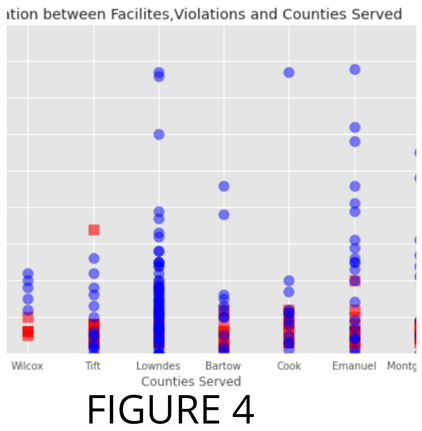

FIGURE 4

DATA

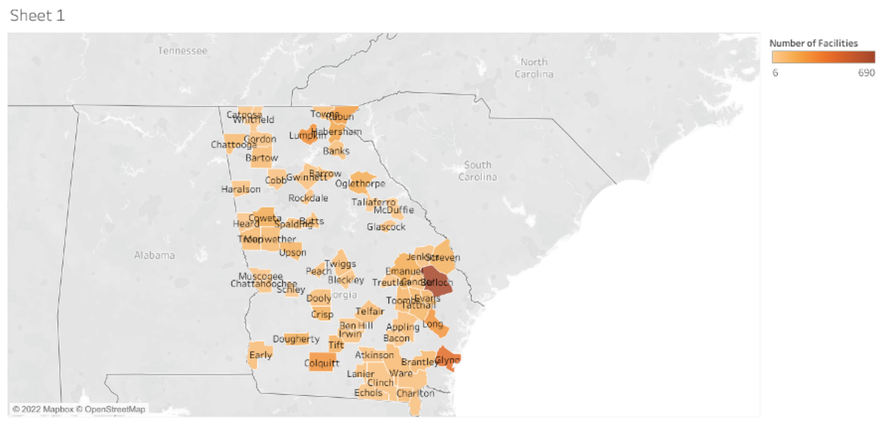

FIGURE 5

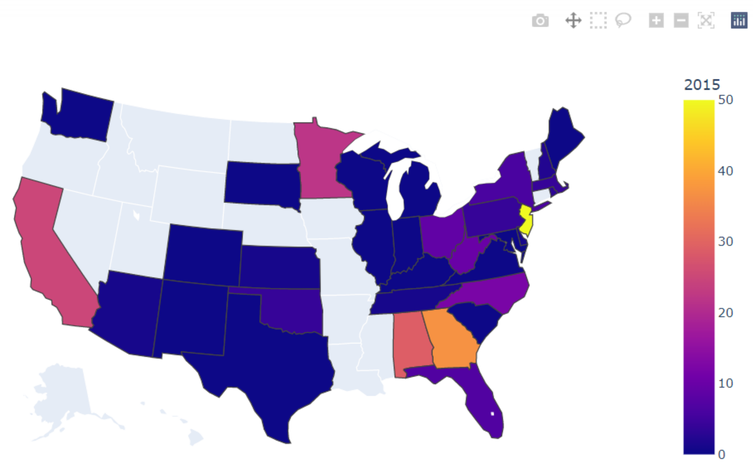

FIGURE 6

The First and Second Figures Show the correlation between the chemicals and Pfas/Teflon.**The Third and Fourth Figures** show more specifics within Georgia counties and there relation between population size, number of facilities and number of violations that occurred, **Figure 4** specifically targeted clustering of the groups of Number of facilities and violations. **Figure 5** looked at just the raw amount of facilities that each county had within them to give us a clearer picture of Georgia and its counties. **Figure 6** Tracks Pfas/Teflon throughout the US from 2013-2015 which gives us a nation wide scope of the situation.

CONCLUSION

In conclusion we found some correlation that Pfas had with certain chemicals that could very be by products along with Teflon. We have found some overlapping correlation that when counties have lower population that their number of facilities goes up along with it the number of violations. Dalton county had some of the most facilities located within Georgia.

WORKS CITED

- Water_System_Summary.csv
- UCMR3_All.zip
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