COVID-19 and the Weather: A data visualization

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**Introduction**  
On January 9th 2020 the World Health Organization (WHO) announced that a coronavirus related pneumonia had been spreading in Wuhan, China. By March 11th 2020 the WHO had declared the COVID-19 pandemic. Since then, the COVID-19 pandemic has affected almost the entire world. The US confirmed its first coronavirus case on January 21st (<https://www.ajmc.com/view/a-timeline-of-covid19-developments-in-2020>).

Since then the US has experienced several waves of increased infection rates that has varied in severity across the country. According to the CDC, COVID-19 can spread from human to human via respiratory droplets in the air. Specifically, the virus is known to spread more easily indoors where there is less air ventilation (<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html>).

One could hypothesize that as the weather changes to less favorable conditions outdoors more people do more things indoors, increasing the spread of COVID-19. My proposed project aims to let users explore the relationship between the spread of COVID-19 and the weather in the US.

My project is a map based web application that would allow users to explore the relationship between COVID-19 infection rates and the weather. Users would be able to pick a location in the US from a map and view the two datasets together.

**Related Work**

Influenza is another respiratory illness that is spread via respiratory droplets in the air. The link between influenza and the weather is well established. The influenza virus is known to survive and transmit better outside the human body in colder, dryer weather (flu/Quantifying the role of weather on seasonal influenza). While the coronavirus is certainly not the same thing as the flu it does spread in a very similar manner. This makes the relationship between COVID-19 transmission and the weather worth exploring.