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Title: WildFire Emissions Impacts on Air Quality in the Wasatch Front
Abstract

Wildfire emissions are known for contributing CO₂, O₃, NO_x, PM₁₀ and PM_{2.5} into the atmosphere. These direct emissions of toxic pollutants can cause hazardous air conditions across the United States. The 2017 to 2019 wildfire seasons were characterized by significant wildfire activities across the western U.S. These wildfires produced smoke and impacted air quality in many locations. In this study, I will analyze the impacts of wildfire emissions on air quality in the wasatch front. Daily PM_{2.5}, PM₁₀, and ozone concentrations will be obtained from the Environmental Protection Agency (EPA) Hawthorne Monitor located in Salt Lake County, UT. Wildfire smoke data will be obtained from the National Oceanic and Atmospheric Administration (NOAA) GOES-15 Aerosol/Smoke Product (GASP), which provides Aerosol Optical Depth (AOD) imagery across the western U.S., including Salt Lake County. These datasets will be analyzed during summer months (June, July, and August) for the years 2017-2019. We hypothesize that presence of wildfire smoke in Salt Lake County will be coincident with high concentrations of PM_{2.5}, PM₁₀, and ozone. This study will aid in the forecasting and warning of hazardous air quality during summer months due to wildfire smoke emissions. This can allow residents to take actions to reduce their exposure to these harmful air pollutants.