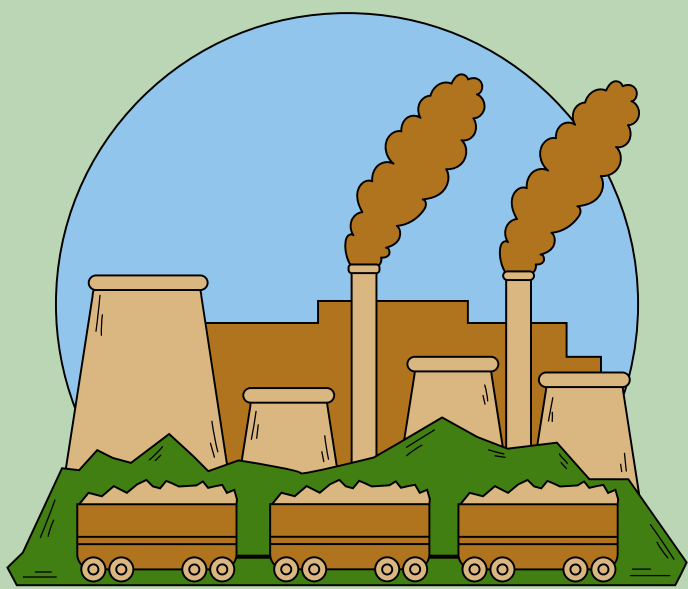


# COAL POWER PLANTS, AIR POLLUTION, AND HEALTH OUTCOMES

Team Dark Orchid



## BACKGROUND

Coal is widely known to cause negative health outcomes when being mined or burned in-home as a heat source. Remaining largely unknown is the impacts coal fired power plants have on overall health outcomes.

## RESEARCH QUESTION

How does proximity to **coal fired power plants** affect **health outcomes** in the continental United States?

## KEY VARIABLES

- Air Quality Index (AQI)
- Percent change in mortality of lung disease, asthma, Pneumoconiosis, and respiratory disease from 1984 to 2014.

## DATA SET

- EPA (air pollution)
- Institute for Health Metrics and Evaluation (health outcomes)
- CDC (adults who currently smoke)

## METHODS

Multivariate regression analysis looking for statistically significant relationships between air pollution data and respiratory health outcome data

## RESULTS

Overall, we found that coal fired power plants **may have some significant impacts on respiratory health outcomes depending on proximity to a coal fired power plant**. From our regression analysis, we found that county centroids that are farther away from coal fired power plants have lower respiratory disease mortality rates. We also found that some states (such as North Carolina and Tennessee) hold a statistically significant correlation when looking at the relationship between distance to the closest power plant and mortality from respiratory disease. However, when analyzing this relationship, it is important to consider moderating variables, such as smoking.

