Research question: How does exposure to extreme heat events affect hospital admissions for cardiovascular disease in the United States?

Hypothesis: Exposure to extreme heat events, as measured by high temperature and heat index values, will increase the risk of hospital admissions for cardiovascular disease, with potentially greater effects in certain regions and for certain demographic groups.

Datasets:

1. Extreme heat event data from the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information, downloaded from <https://www.ncei.noaa.gov/access/metadata/landing-page/bin/iso?id=gov.noaa.ncdc:C00761>.
2. Cardiovascular disease hospitalization data from the Centers for Disease Control and Prevention (CDC), downloaded from <https://www.cdc.gov/dhdsp/data_statistics/index.htm>.
3. Demographic and socioeconomic data from the American Community Survey (ACS), downloaded from <https://www.census.gov/programs-surveys/acs>.

Variables:

* Extreme heat events: daily maximum temperature and heat index values for each county in the contiguous United States.
* Cardiovascular disease hospitalizations: number of hospitalizations for cardiovascular disease for each state (2009-2011)
* Demographic and socioeconomic: population, median household income, and education level for each state.

By using multiple datasets and merging them together, we can gain a more comprehensive understanding of the relationship between extreme heat events and cardiovascular disease hospitalizations in the United States, while controlling for important demographic and socioeconomic factors. The extreme heat event data from NOAA will allow us to assess the impact of high temperatures and heat index values on cardiovascular health outcomes, while the cardiovascular disease hospitalization data from the CDC will allow us to quantify the effects of extreme heat events on hospital admissions. The demographic and socioeconomic data from the ACS will allow us to control for potential confounding factors that may influence the relationship between extreme heat events and cardiovascular disease hospitalizations.