

## Investigating The Relationship between Climate Change and Hurricane Activity

DS4002 Case Study by Nathan Wan



As another grim reminder that humans have yet to conquer the earth, the past hurricane season has caused widespread devastation and billions of dollars of damages. As global temperatures rise and weather patterns shift, the scientific community has begun taking interest on the relationship between the two. This interest has spread to the government, who has hired your firm to explore how climate change is influencing hurricane frequency. Your firm has entrusted this task to you, their best analyst.

Your mission is to merge datasets on climate change and hurricane activity and analyze the aggregation, in an attempt to uncover trends and potentially forecast future shifts in hurricane activity based on climate change. Leveraging python and libraries such as statmodels and pandas, you will perform multiple tests to validate relationships between variables such as sea surface temperatures and hurricane frequency and go further with forecasting using a VAR (Vector-Autoregression) model.

The task may seem challenging and complex, but your firm has full faith that you have the skills needed to pull this off. Your findings will have a lasting impact on environmental policy and families of many impacted by these devastating forces of nature.

Resources compiled by your assistant, which include supplementary documentation, datasets, etc., can be found here:

[nw93929/DS4002-CS3](#)