CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)

Leonardo E. Glikbarg

Project Number

38059

Project Title

Predicting Terrorist Attacks in Afghanistan Using Generalized Multivariate Regression and Time Series Analysis

Abstract

Objectives/Goals

The objective of this study is to help prevent terrorist attacks in one of the provinces of Afghanistan by discovering the factors that significantly affect the rate at which terrorist attacks occur, and then by using that data to predict terrorist attacks.

Methods/Materials

Laptop computer with RStudio installed. Used data from the United Nations and the Afghan government to create a generalized linear model, ran a time series analysis which generated predictions of future terrorist attacks in Afghanistan.

Results

From the generalized linear model I created, I determined that opium production had by far the strongest correlation to terrorist attacks in Afghanistan out of the nearly 40 covariates I analyzed. I was also able to predict through a time series analysis, that there will be 39, 36, and 42 terrorist attacks respectively in the next three years in the capital of Afghanistan.

Conclusions/Discussion

One way to reduce the number of terrorist attacks in Afghanistan could be to limit the production of opium. Resources, both preventative and retaliatory, can be allocated to regions based on the number of attacks predicted.

Summary Statement

I created a prediction of terrorist attacks in Afghanistan using generalized multivariate regression and time series analysis.

Help Received

I learned the statistical procedures necessary for this project through independent study as well as explanations from Mihnea Andrei, a graduate student at the UCSB Department of Statistics. I used data from the U.N. and the Afghan Govt.