

## **Efficient Evacuation of At-Risk Populations**

**Team Number:** SFHS162  
**School Name:** Santa Fe High School  
**Area of Science:** Social & Behavioral  
**Project Title:** Efficient Evacuation of At-Risk Populations

In light of the numerous natural disasters such as hurricanes and floods affecting the United States, if and how a population evacuates has become a pertinent question. For instance, during Hurricane Harvey, the city of Houston chose not to issue mandatory evacuation orders due to their experience with Hurricane Rita. On the other hand, in Florida and Puerto Rico such orders were given out, and in the case of the former, an organized method was used. Our simulation aims to determine which real world method of evacuation should be utilized via observation of the time taken for complete egress. Over the course of this project, research concerning real world evacuation plans, statistics from past evacuations, and data from the location chosen for simulation will be completed. By doing this, we hope to ascertain how to best evacuate a population, be it random evacuation or a systematic approach. In order to simulate the evacuees and their route using a city layout, the model will be made in Netlogo.

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