2018 Winner Layout

Problem Research (4 pages)

- **Introduction of the problem** They never explain how droughts kill people. Thirst? Fire?

**- Objective of the research “T**his research paper will tackle

the task of identifying which areas of the United States are objectively the most

dangerous, and which areas are the least dangerous, or safest.”

- **Initial Hypotheses** “that the least

dangerous area of the United States would be Ohio, ... most dangerous area of the United States was

located in the southeastern area of the United States”

**- Testing the hypotheses:** “the team would identify the objectively safest

area within the state ... they could simplify the classification process through the only language that is both entirely objective and incapable of telling a lie: mathematics”

**o using a methodology (threat vector)** “A ratio for loss of life with respect to loss of

property was derived in order to simplify the threat vector” This alone doesn’t determine relative danger but the following mathematical model and explanation was well done.

**o Two types of charts: probability and destructive ranking**

**- Stating results** “The final results prove to deviate from the original hypothesis. The safest state in the United States had proven to be Michigan, Texas had proven to be the most at risk state in the nation with respect to natural disasters.”

**- The expansion of the problem ( human migratory patterns )** “As an example, we’ll compare the dilemma surrounding Flint, Michigan... Texas, on the other

hand, is an economic powerhouse” Basically saying that they migrated to Texas

**Job/Career Research (3 pages): 2 professors**

**- Professor name:**

**- Biography** Averaged 250 words per professor biography

**- Career “**math professor”

**- Use of Mathematical Models in Research/Publications “**math professor... Game theory, simply put, is... Game theory can... subcategory of game theory, evolutionary psychology...”

**Mathematical Model (3 pages): the most complex parts**

**- Game theory, probability, and proportionality similarity/geometric similarity**

**- 2 charts: probability and severity** Thorough Explanations of math

**Thesis Defense (2 pages) “With respect to natural disasters, Michigan is the safest area to live.”** Restating their findings **“Answering the question as to why everyone doesn’t live there requires the research paper to address issues wholly unrelated to natural disasters.”** Was this necessary at all?

**- Answer the problem questions**

**References (2 pages)**