**Week 8: Experimental Design**

**MSDS660**

**Statistical Method and Experimental Design**

**Anderson College of Business and Computing**

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Experimental design is a design of procedure or process to test a hypothesis. It requires a full understanding of the field the designer studying. Moreover, experimental design has five key steps: considering relatable variables, writing testable hypothesis, designing experimental treatments to manipulate the independent variables, assigning subjects to groups, and planning to measure the dependent variable. This paper is a review of “UN Says Climate Genocide Is Coming. It’s Actually Worse Than That” article by the New Yorker magazine in terms of the statistical methods that used in the article.

The article shows a report by the UN’s IPCC, Intergovernmental Panel on Climate change, stating that in few decades the global warming will increase by 2 degrees Celsius and the effect on the environment by these 2 degrees. The article also shows the effects on the globe by three scenarios 2 degrees, 3 degrees, and 4 degrees. The writer claims that the world is heading toward 4 degrees increasing in the globe in next few decades.

The article shows that at 2 degrees warming, the ice sheets will melt and collapse which leads to flooding dozens of major cities this century, global GDP per capita will shrink by 13%, millions of people will suffer lack of clean water, heat wave will kill thousands every summer, many cities in India will be unlivable because of the heat, and extreme heat waves will increase by 32 times. At 3 degrees, Europe will be in permanent drought, 19 months in central America, and five years in Africa. Moreover, wildfires will double in Mediterranean, and will sextuple in the U.S. Sea level will rise to swallow Miami, FL, and Jakarta, Indonesia. River flooding will increase by 30 times in Bangladesh, 20 times in India, and 60 times in U.K. At 4 degrees with the writer is prospecting, 50% of grain production will be cut which leads to food crises. The global economy will be smaller by 30% than what it will be without global warming. The writer also claims that even though the world is going forward green energy, cutting coal production slowly, global carbon emission still increasing which leads us toward 4 degrees scenario.

The writer illustrates that increasing carbon tax would be one of the solutions to keep climate change below 4 degrees, and that carbon capture and solar geoengineering is still too new to be applied on global scale.

This article collects its data from carbon brief website which they present the effects on the globe by 1.5C and beyond on many aspects such as crops, storm and flooding, etc. Carbon brief website claims that the data were collect from 150 relevant peer-reviewed journal papers. There is no sign of any statistical methods that have been used to presents those data. In fact, this article only shows results as they are facts without explaining where these data came from.

To conclude, even though the article’s audience are the public who have no clue about statistics and analytics, the article should briefly explain scientifically how their claims and data are valid.

# References

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