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Course: DSC 680

Assignment: 2.1

10 Projects

1. DSC 500 Research Paper on Image Classification
2. DSC 520 King Salmon in Decline
3. DSC 530 World Health Organization’s Suicide Statistics
4. DSC 540 Earthquakes
5. DSC 550 Mining for Recalls
6. DSC 630 Predicting Individual Tax Returns
7. DSC 640 Airline Travel Safety
8. DSC 680 Project 1 Aurora Borealis Prediction and Promotional Travel
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Readme for King Salmon in Decline

This project was conducted in DSC 520 to look at the correlation, linear regression, and insights into the declining salmon population. It used multiple datasets from Department of Fish and Wildlife to include CSV files of Hatchery Salmon Returns, Regions Hatchery Standards, and Salmonid Stock Inventory.

Hatcheries provide are used for stock enhancement or also known as restoration aquaculture. These fish were raised within the hatchery and then released to supplement to population of recreational, commercial, and ecologically important species [1]. One of these important species is the King Salmon. Commercial fishing farms require a steady, predictable source of juveniles from hatcheries to stay in production and provide a consistent product. Within the past decade there has been a decline in King Salmon, with less making the run up to Alaska to spawn within their rivers. To preserve these magnificent creatures, the state has banned catch and release fishing on their rivers. Wild and hatchery smolt are missing and biologist know that they made it out to sea.

Research questions

1. Are King Salmon really in decline?

2. What other species, if any, are also in decline of returning to the hatcheries?

3. Are hatcheries truly showing restoration aquaculture with the multiple species of Salmon?

4. Which run has the largest effect of returned Salmon – Winter, Spring, Summer or Fall?

5. Are there other inputs may influence returning Salmon, more jacks than female?

Readme for Suicide Statistics

This project looks at Suicide Statistics from the World Health Organization.

There is anecdotal evidence that males are more likely to commit suicide than females. There were also comparisons between developed countries (i.e. United States) to developing countries (i.e. Argentina), in that the developing countries have less suicides. Also, that suicide is more prevalent today than it was 40 years ago.

The dataset has six variables:

1. Country

2. Year, 1979 to 2016

3. Sex, male and female

4. Age, age group

5. Suicide No, Number of Suicides

6. Population, all living people within the country

To answer the questions that I have, I will be focusing on all the variables.

Questions that I will be asking to confirm if the above anecdotal evidence is true:

1. Do middle age males commit suicide more than females?

2. Do suicides happen more in developed countries than less developed countries?

3. Were there more recent suicides committed than there were 10, 20 and even 30 years ago?

4. What trends, if any, are among the demographic?

5. Does the United States lead in suicides?

During my exploratory data analysis, I did find that United States did in fact lead the world in suicides. It was followed by Romania, Sweden, Iceland, United Kingdom and Mongolia. I do believe that Sweden practices in assisted/passive suicides. Which has developed countries with more suicides that are documented.

The age groups 14 to 24 and 34 to 54 do commit suicide with middle age people committing suicide more.

It looked like the mid-1990s and early 2000s were the years that were hit by suicide the most.

I believe it would have been easier if I would have recoded sex male = 1 and female =2 to get a better analysis of the sex that committed the most suicides.

The challenges that I faced was Python, I see that I am going to have to practice more and become more confident. Also, time management.

Reference:

https://www.kaggle.com/szamil/who-suicide-statistics#who\_suicide\_statistics.csv

Projects portfolio site:

<https://github.com/Briggskm9/DSC680/tree/main/Portfolio>