

STATS 506 Project Proposal

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1 Topic and Questions

1.1 Topic

Recent decades have witnessed a growing trend of climate change, which brings more heat waves during summer time. As another consequence of climate change, urban heat island effect (UHI) raises the temperature in urban regions by a few degrees compared with their surrounding rural areas. Such effect could cause extreme hot weather and have negative impact on public health, especially among aged population. Our group focus on the study of urban heat island and its vulnerability assessment towards the health of older adults.

1.2 Specific Questions

The relationship between UHI intensity / temperature as well as the illness / death of old people among the United States.

2 Investigation Plan

2.1 Data set

Up till now, we have collected the data sets as follows,

- United States Surface Urban Heat Island Database; from Mendeley Data: <https://data.mendeley.com/datasets/x9mv4krnm2/2>
- Global Map Temperature; from NASA Earthdata: https://disc.gsfc.nasa.gov/datasets/AIRS3STM_006/summary
- Death of Elderly People by County; from CDC: <https://wonder.cdc.gov/ucd-icd10.html>

2.2 Method

Regression / Significance test / Visualization / RDBMS /SQL

2.3 Basic Timeline

The basic timeline of our Investigation plan is given as below,

DATE	TASK
Sep 28th:	Proposal Due
Sep 30th:	Finalize the dataset we use, read, clean, and extract data
Oct 10th:	Combine the data and finish primary analysis
Oct 15th:	Create a RDBMS and push data to RDBMS, explore by SQL query
Oct 23rd:	Finish the preliminary regression to verify some trends
Oct 30th(around):	Mid-term Reflection
Nov 7th:	Improve the method including regression, classification and prediction
Nov 15th:	Get the preliminary conclusion based on the result obtained, discussion
Nov 20th:	Brainstorm on some possible missing factors and improve the model
Nov 30th:	Finish the final draft
Dec 5th:	Revise and discuss
Later:	Possible revision