Master's Thesis Defense

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MS Graduate Student

Under the Supervision of Jon Kahl

Thursday, April 29th, 2021 @ 3:00pm

Online via. Microsoft Teams

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Investigating the Potential of a Combined Air Quality-Heat Index

Although the development of the Air Quality Index has been significant in informing and protecting the public, it may not be entirely reflective of the health effects of air pollutants. Meteorological factors that are considered in the heat index, temperature and relative humidity, are not considered when calculating the Air Quality Index. It may be important to consider certain meteorological factors when assessing the quality of the air because such factors affect the dynamics of air movement as well as the formation of certain pollutants.

Through a series of Quasi-Poisson regressions, we investigated whether the relationship between the Air Quality Index and mortality could be strengthened by considering elements of the heat index. Our analyses revealed that a combined air quality-heat index may have merit; by including the meteorological elements of the heat index in assessing air quality, the relationship between air quality and mortality was strengthened in some cases.

Committee Members:

Jon Kahl (Advisor); Paul Roebber, Sergey Kravtsov

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