



The University of Chicago  
Department of Statistics

MASTER'S THESIS PRESENTATION

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**Temperature, Humidity, and Wind in East Asia**

**MONDAY, May 9, 2011, at 11:30AM**

110 Eckhart Hall, 5734 S. University Avenue

**ABSTRACT**

In recent years, analysis of global surface air temperature and other meteorological variables were routinely carried out. Here, we display a five-year period of meteorological conditions in East Asia where temperature, relative humidity and pressure decrease as latitude increases. Also, the mean wind direction in different latitudes almost has a linear relationship with the corresponding temperature through the five-year period. The data shows that East Asia has a typical temperate monsoon climate. I use an exchangeable correlation model to show the relationship between temperature and other meteorological variables like pressure, relative humidity, latitude, season, and wind direction. I found that the within-district or time varying variance is much larger than the between-district variance after we leave out the latitude effect, season effect and other fixed effects, that is to say the correlation between two temperature measures at the same district is less significant than the correlation between two districts.

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