Impact of Climate Change on Wildfire Across China, Based on Plot-Level Data From National Forest Inventory - June 2019

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Impact of climate change on wildfire across China, based on plot-level data from national forest inventory

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## Background, Motivation and Objectives

| Background | • Globally, a century of fire suppression and more recent drought had led to higher intensity  
| • Wildfire is an integral element in naturally regulating forest ecosystem |
| --- | --- |
| Motivation | • Forest fires cost millions of dollars and many lives  
| • Increased fire frequency and intensity may threaten the carbon storage of forest  
| • Increased fire frequency and intensity may threaten human health  
| • Climate change is increasing the uncertainty of fires |
Research design

Data

- National Forest Inventory
- Observed Climate Data
- Predicted Climate Data

Variable

- Y: Intensity of Fire
- X: Climate Factors
- Control variables: Site conditions; forest quality; management

Empirical Model Estimation

- Linear Model
- Spatial Dependence Test
- Spatial Econometric Model

The effect evaluation

- Evaluation Results
- Predicted Climate Data
Fire data in 2008 and 2013 (from NFI)
Preliminary conclusions

• The precipitation (average) is the main climate factor that affect wildfire intensity. Under climate change scenarios RCP 2.6 and RCP 8.5 by 2100, the forest fire intensity will decrease by 3.13% and 3.12% respectively due to increased precipitation in the future.

• From the historical forest fire data, we can see a clear decrease trend of fire activity in China. However, with our research, this decrease trend may be due to the climate change but not because of improved fire control.
谢谢!