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

Shilei Liu  
*Peking University*

Jintao Xu  
*Peking University*

Let us know how access to this document benefits you.

Follow this and additional works at: [https://pdxscholar.library.pdx.edu/fc_research](https://pdxscholar.library.pdx.edu/fc_research)

Part of the [Economic Theory Commons](https://pdxscholar.library.pdx.edu/fc_research), [Environmental Studies Commons](https://pdxscholar.library.pdx.edu/fc_research), and the [International Economics Commons](https://pdxscholar.library.pdx.edu/fc_research)

Citation Details

Liu, Shilei and Xu, Jintao, "Impact of Climate Change on Wildfire Across China, Based on Plot-Level Data From National Forest Inventory - June 2019" (2019). *Forest Collaborative Research*. 22.

[https://pdxscholar.library.pdx.edu/fc_research/22](https://pdxscholar.library.pdx.edu/fc_research/22)

This Spring 2019 Meeting Presentation - Manchester, England is brought to you for free and open access. It has been accepted for inclusion in Forest Collaborative Research by an authorized administrator of PDXScholar. For more information, please contact pdxscholar@pdx.edu.
Impact of climate change on wildfire across China, based on plot-level data from national forest inventory

Shilei Liu
Jintao Xu

Peking University
National School of Development
## 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 threat the carbon storage of forest  
- Increased fire frequency and intensity may threat 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！