

# Jangho Lee

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**CROCUS Postdoctoral Researcher**

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**Research Interests** Atmospheric Informatics, Downscaling, Climate Impact, Land-Vegetation-Atmosphere Modelling, Remote Sensing, Urban Climate, ML/DL, Atmospheric Data Analysis

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**Education** 2018 - 2023 **Texas A&M University** **Ph.D.** in Atmospheric Sciences

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2011 - 2018 **Seoul National University** **B.S.** in Earth and Environmental Sciences

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**Research Experience** 2023 - Present **University of Illinois Chicago**  
*CROCUS Postdoctoral Researcher*

- Community Research on Climate and Urban Science (CROCUS)
- Urban remote sensing, urban data analysis, downscaling
- Land-Vegetation-Atmosphere modelling (E3SM & ELM)

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2018 - 2023 **Texas A&M University**  
*Graduate Research Assistant*

- Climate impact analysis, data analysis, extreme weather analysis
- Remote sensing, machine learning, deep learning

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2014 - 2018 **Seoul National University**  
*Undergraduate Intern*

- Statistical climatology

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**Other Experiences** 2012 - 2014 **Republic of Korea Army**  
*Drill Sergeant in Korea Army Training Center*

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**Publications**

1. **Lee, J.** (2024). Assessment of U.S. Urban Surface Temperature using GOES-16 and 17 Data: Urban Heat Island and Temperature Inequality. *Weather, Climate, and Society*, 16(2), 315-329
2. **Lee, J.**, Berkelhammer, M., Wilson, M. D., Love, N., & Cintron, R. (2024). Urban Land Surface Temperature Downscaling in Chicago: Addressing Ethnic Inequality and Gentrification. *Remote Sensing*, 16(9), 1639
3. **Lee, J.**, & Hu, M. (2024). Effect of Environmental and Socioeconomic Factors on Increased Early Childhood Blood Lead Levels: A Case Study in Chicago. *International Journal of Environmental Research and Public Health*, 21, 383
4. **Lee, J.**, & Dessler, A. E. (2024). Improved Surface Urban Heat Impact Assessment Using GOES Satellite Data: A Comparative Study With ERA-5. *Geophysical Research Letters*, 51(1), e2023GL107364.

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5. **Lee, J.**, & Dessler, A. E. (2023). Future Temperature-Related Deaths in the US: The Impact of Climate Change, Demographics, and Adaptation. *GeoHealth*, 7(8), e2023GH000799.
  6. **Lee, J.**, & Dessler, A. E. (2022). The Impact of Neglecting Climate Change and Variability on ERCOT's Forecasts of Electricity Demand in Texas. *Weather, Climate, and Society*, 14(2), 499-505.
  7. **Lee, J.**, Mast, J. C., & Dessler, A. E. (2021). The Effect of Forced Change and Unforced Variability in Heat Waves, Temperature Extremes, and Associated Population Risk in a CO<sub>2</sub>-Warmed World. *Atmospheric Chemistry and Physics*, 21(15), 11889-11904.
  8. **Lee, J.**, Shi, Y. R., Cai, C., Ciren, P., Wang, J., Gangopadhyay, A., & Zhang, Z. (2021). Machine Learning Based Algorithms for Global Dust Aerosol Detection from Satellite Images: Inter-Comparisons and Evaluation. *Remote Sensing*, 13(3), 456.
  9. **Lee, J.**, & Kim, K. Y. (2018). Analysis of Source Regions and Meteorological Factors for the Variability of Spring PM10 Concentrations in Seoul, Korea. *Atmospheric Environment*, 175, 199-209.
  10. **Lee, J.** (2017). Future Trend in Seasonal Lengths and Extreme Temperature Distributions over South Korea. *Asia-Pacific Journal of Atmospheric Sciences*, 53, 31-41.

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**Seminars & Invited Talks**

1. [Invited Talk: 2024, Florida State University] Urban Land Surface Temperatures: Importance, Measurements, and Multidisciplinary Applications
2. [Invited Talk: 2024, University of Illinois Chicago] Urban Land Surface Temperatures: Importance, Measurements, and Multidisciplinary Applications
3. [Invited Talk: 2024, Seoul National University] Urban LST Downscaling in Chicago: Addressing Socioeconomic Disparities
4. [Department Seminar: 2022, Texas A&M University] Future Temperature Related Deaths in the US: The Impact of Climate Change, Demographics, and Adaptation

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**Awards & Scholarships**

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| [2022] Outstanding Graduate Student Research Award | <i>Texas A&amp;M University</i>  |
| [2021] Outstanding Graduate Student Seminar Award  | <i>Texas A&amp;M University</i>  |
| [2017] Best Thesis Award                           | <i>Seoul National University</i> |
| [2011, 2015, 2016, 2017] Merit-based Scholarship   | <i>Seoul National University</i> |
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