

Jincheol Park

Department of Earth and Atmospheric Sciences
University of Houston, Houston, Texas, USA
jpark56@cougarnet.uh.edu

Education

Graduate student, PhD program in Atmospheric Sciences 2020 - Present
University of Houston, Houston, Texas, USA
Supervisor: Dr. Yunsoo Choi

Master of Science, Environmental Science 2017 - 2019
University of Texas at San Antonio, San Antonio, Texas, USA
Supervisor: Dr. Janis K. Bush
Thesis: Impacts of prevailing winds on monarch butterflies' migratory patterns along overnight roosts in Texas

Bachelor of Science, Environmental Science 2009 - 2013
University of Texas at San Antonio, San Antonio, Texas, USA

Publications

Park, J., Jung, J., Choi, Y., Mousavinezhad, S., & Pouyaei, A. The sensitivities of ozone and PM_{2.5} concentrations to the satellite-derived leaf area index over East Asia and its neighboring seas in the WRF-CMAQ modeling system. under review.

Jung, J., Choi, Y., Mousavinezhad, S., Kang, D., **Park, J.**, Pouyaei, A., Ghahremanloo, M., Momeni, M., & Kim, H. (2022). Changes in the ozone chemical regime over the contiguous United States inferred by the inversion of NO_x and VOC emissions using satellite observation. *Atmospheric Research*, 270, 106076. <https://doi.org/10.1016/j.atmosres.2022.106076>

Park, J., & Lee, P. S.-H. (2020). Relationship between remotely sensed ambient PM₁₀ and PM_{2.5} and urban forest in Seoul, South Korea. *Forests*, 11(10), 1060. <https://doi.org/10.3390/f11101060>

Lee, P. S.-H., & **Park, J.** (2020). An effect of urban forest on urban thermal environment in Seoul, South Korea, Based on Landsat Imagery Analysis. *Forests*, 11(6), 630. <https://doi.org/10.3390/f11060630>

Lee, P. S.-H., J, **Park, J.**, & Seo, J. (2020). Estimation of ambient PM₁₀ and PM_{2.5} concentrations in Seoul, South Korea, using empirical models based on MODIS and Landsat 8 OLI imagery. *Korean Journal of Agricultural Science*, 47:59-66. <https://doi.org/10.7744/kjoas.20190087>

Lee, S-H., & **Park, J-C.** (2019). Correlation between urban forest and satellite-borne imagery-based ambient particulate matter across Seoul, South Korea. *Journal of Agriculture & Life Science*, 53(6), 1–11. <https://doi.org/10.14397/jals.2019.53.6.1>

Research interests

Air quality modeling

Inverse modeling

Numerical weather prediction

Surface-atmosphere interaction

Urban forests

Conservation biology

Work Experiences

Teaching Assistant, University of Houston, Houston, Texas, USA Aug 2021 - present
Course: Introduction to Climate Change Lab

Research Assistant, University of Houston, Houston, Texas, USA May 2021 - Aug 2021

Project:

- Satellite-based approach to improving the bottom-up estimates of NO_x, SO₂, and primary PM emissions over East Asia (funded by a grant from National Institute of Environment Research (NIER) under Ministry of Environment (MOE) of Republic of Korea: NIER-2021-01-02-071)

Teaching Assistant, University of Houston, Houston, Texas, USA Aug 2020 - May 2021

Course: Introduction to Climate Change Lab

Researcher, Hanyang University, Seoul, Republic of Korea Jul 2019 - Jun 2020

Projects:

- Investigation on the mitigation effect of urban forest on air pollution in Seoul, Korea, using remote sensing techniques (funded by National Research Foundation of Korea (NRF))
- Feasibility study on the effects of urban forests and ventilation corridors on mitigating air pollution in Seoul, Korea (funded by Korea Forestry Promotion Institute (KOFPI))

Teaching Assistant, University of Texas at San Antonio, San Antonio, Texas, USA Aug 2018 - May 2019

Courses: Introduction to Environmental System I and II, and Environmental Geology

Weather Briefer, The 6th CISM Military World Games, Mungyeong, Republic of Korea Oct 2-11, 2015

Tasks: provided ultrashort-range aviation weather forecasts and weather briefings to international pilots and navigators for Aeronautical Pentathlon.

Aviation Weather Officer, The 16th Fighter Wing, Yecheon, Republic of Korea Feb 2014 - Nov 2016

Positions:

- Weather unit commander (Feb 2016 - May 2016), forecast team chief (Sep 2015 - Feb 2016; May 2016 - Oct 2016), weather forecaster (Feb 2014 - Aug 2015; Oct 2016 - Nov 2016)

Tasks:

- Produced ultrashort-, short-, mid-, long-range forecasts for airborne and ground military operations.
- Assisted in decision-making process by forecasting aeronautical weather conditions based on numerical weather prediction models and real-time meteorological observations relayed from weather satellites, radars, and wind profilers.
- Issued weather advisories, warnings, and Terminal Aerodrome Forecasts (TAFs) for International Civil Aviation Organization (ICAO).
- Instructed pilots, officers, enlisted soldiers, and reserve forces basic meteorological services.
- Supplemented wartime forecast protocols for Korea-U.S. joint operations.

Software skills

Programming languages: Fortran, MATLAB, Python

Atmospheric modeling: WRF, CMAQ, MEGAN

GIS and remote sensing: ArcGIS, QGIS, ENVI, ERDAS Imagine