Jing Wei, Ph.D. (Updated to 1/12/2022)

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Biography

I am focusing on studying atmospheric aerosols, clouds, particulate matter, and trace gases using remote sensing, big data, and artificial intelligence. Up to now, I have authored over **60** SCI papers as first or corresponding authors in leading journals such as *RSE*, *ES&T*, *JGR*, *ACP*, and *TGRS*, including **6 ESI Hot (Top < 0.1%) papers** and **11 ESI Highly Cited (Top < 1%) papers**, and **7** papers have been cited more than 100 times, with the highest one of **269** times. My total citations are more than **3500** times with an H-index of **32** (Google). I was the recipient of the **AGU James R. Holton Award (2022)** and selected to Stanford University List of the **World's Top 2% Scientists (2022, 2021)**. I was an Editor of *Earth System Science Data*. I have generated the high-resolution and high-quality datasets of ground-level air pollutants in China, the United States, and the World (i.e., CHAP, USHAP, and GHAP), which have been widely used, leading to more than **110** related publications.

Work Experience

Faculty Research Associate, University of Maryland, College Park, USA, 2022–Present.
Postdoctoral Fellow, University of Iowa, USA, 2021–2022.
Research Assistant, Tsinghua University, China, 2017–2018.
Research Assistant, Chinese University of Hong Kong, Hong Kong, China, 2017.

Education

Joint Ph.D. University of Maryland, College Park, USA, 2021.
Ph.D. Beijing Normal University, China, 2021.
M.Sc. Shandong University of Science and Technology, China, 2017.
B.Sc. Shandong University of Science and Technology, China, 2014.

Selected Peer-Reviewed Publications (Full list at: https://weijing-rs.github.io/publication.html) [Citations]

1. **Wei, J.**, Huang, W., Li, Z., et al. Estimating 1-km-resolution $PM_{2.5}$ concentrations across China using the space-time random forest approach. *Remote Sensing of Environment*, 2019, 231, 111221. **[269]**

2. **Wei, J.**, Li, Z., et al. Reconstructing 1-km-resolution high-quality $PM_{2.5}$ data records from 2000 to 2018 in China: spatiotemporal variations and policy implications. *Remote Sensing of Environment*, 2021, 252, 112136. **[207]**

3. **Wei, J.**, Li, Z., et al. Improved 1 km resolution $PM_{2.5}$ estimates across China using enhanced space-time extremely randomized trees. *Atmospheric Chemistry and Physics*, 2020, 20(6), 3273–3289. **[186]**

4. **Wei, J.**, Li, Z., Peng, Y., and Sun, L. MODIS Collection 6.1 aerosol optical depth products over land and ocean: validation and comparison. *Atmospheric Environment*, 2019, 201, 428–440. **[184]**

5. **Wei, J.**, Li, Z., et al. Satellite-derived 1-km-resolution PM_1 concentrations from 2014 to 2018 across China. *Environmental Science & Technology*, 2019, 53(22), 13265–13274. **[140]**

6. **Wei, J.**, Li, Z., et al. Full-coverage mapping and spatiotemporal variations of ground-level ozone (O_3) pollution from 2013 to 2020 across China. *Remote Sensing of Environment*, 2022, 269, 112775.

7. **Wei, J.**, Huang, W., Li, Z., et al. Cloud detection for Landsat imagery by combining the random forest and super-pixels extracted via energy-driven sampling segmentation approaches. *Remote Sensing of Environment*, 2020, 248, 112005.

8. **Wei, J.**, Liu, S., Li, Z., et al. Ground-level NO_2 surveillance from space across China for high resolution using interpretable spatiotemporally weighted artificial intelligence. *Environmental Science & Technology*, 2022, 56(14), 9988–9998.

9. **Wei., J.**, Li, Z., et al. The ChinaHighPM_{10} dataset: generation, validation, and spatiotemporal variations from 2015 to 2019 across China. *Environment International*, 2021, 146, 106290.

10. **Wei, J.**, Li, Z., et al. Himawari-8-derived diurnal variations of ground-level $PM_{2.5}$ pollution across China using the fast space-time Light Gradient Boosting Machine (LightGBM). *Atmospheric Chemistry and Physics*, 2021, 21, 7863–7880.

11. **Wei, J.**, Peng, Y., et al. Intercomparison in spatial distributions and temporal trends derived from multi-source satellite aerosol products. *Atmospheric Chemistry and Physics*, 2019, 19, 7183–7207.

12. **Wei, J.**, Sun, L., et al. An improved high-spatial-resolution aerosol retrieval algorithm for MODIS images over land. *Journal of Geophysical Research-Atmospheres*, 2018, 123(21), 12291–12307.

13. **Wei, J.**, Huang, B., et al. A simple and universal aerosol retrieval algorithm for Landsat series images over complex surfaces. *Journal of Geophysical Research-Atmospheres*, 2017, 122(24), 13338–13355.

14. **Wei, J.**, Li, Z., et al. Extending the EOS long-term $PM_{2.5}$ data records since 2013 in China: application to the VIIRS Deep Blue aerosol products. *IEEE Transactions on Geoscience and Remote Sensing*, 2022, 60, 4100412.

15. **Wei, J.**, Li, Z., Peng, Y., Sun, L., and Yan, X. A regionally robust high-spatial-resolution aerosol retrieval algorithm for MODIS images over Eastern China. *IEEE Transactions on Geoscience and Remote Sensing*, 2019, 57(7), 4748–4757.

16. **Wei, J.**, Li, Z., et al. Enhanced aerosol estimations from Suomi-NPP VIIRS images over heterogeneous surfaces. *IEEE Transactions on Geoscience and Remote Sensing*, 2019, 57(12), 9534–9543.

17. **Wei, J.**, Li, Z., et al. Evaluation and uncertainty estimate of the next-generation geostationary meteorological Himawari-8/AHI aerosol products. *Science of the Total Environment*, 2019, 692, 879–891.

18. **Wei, J.**, Li, Z., Peng, Y., and Wang, L. Improved merge schemes for MODIS Collection 6.1 Dark Target and Deep Blue combined aerosol products. *Atmospheric Environment*, 2019, 202, 315–327.

19. **Wei, J.**, Li, Z., et al. MODIS Collection 6.1 3 km resolution aerosol optical depth product: global evaluation and uncertainty analysis. *Atmospheric Environment*, 2020, 240, 117768.

20. **Wei, J.**, Sun, L., et al. Verification, improvement and application of aerosol optical depths in China. Part 1: Inter-comparison of NPP-VIIRS and Aqua-MODIS. *Atmospheric Environment*, 2018, 175, 221–233.

Awards, Recognitions, and Fellowships

- AGU James R. Holton Award (2022)
- World's Top 2% Scientists (2022, 2021)
- ESSIC Annual Best Paper Award (2022)
- Zhou Tingru Geography Youth Award (2021)
- Gao Tingyao Environmental Protection Outstanding Youth Award (2020)
- Li Xiaowen Remote Sensing Science Youth Award (2019)
- ESI Hot Paper, *Remote Sensing of Environment* (2022/2021/2019)
- ESI Hot Paper, *Atmospheric Chemistry and Physics* (2020)
- ESI Hot Paper, *Environmental Science & Technology* (2019)
- ESI Hot Paper, *Atmospheric Environment* (2019)
- ESI Highly Cited Paper, *Remote Sensing of Environment* (2022/2019)
- ESI Highly Cited Paper, *Journal of Cleaner Production* (2022)
- ESI Highly Cited Paper, *Atmospheric Chemistry and Physics* (2021/2020/2019)
- ESI Highly Cited Paper, *Environment International* (2021)
- ESI Highly Cited Paper, *Science of the Total Environment* (2021)
- ESI Highly Cited Paper, *Environmental Science & Technology* (2019)
- ESI Highly Cited Paper, *Atmospheric Environment* (2019)
- ESI Highly Cited Paper, *Atmospheric Environment* (2018)
- ESI Highly Cited Paper, *Remote Sensing* (2018)
- Most Cited Articles (since 2019), *Remote Sensing of Environment* (2021/2019)
- Most Cited Articles (since 2018), *Remote Sensing of Environment* (2019)
- Most Cited Articles (since 2018), *Atmospheric Environment* (2019)
- 1st Most Cited Paper in *Remote Sensing of Environment* (2021)
- 1st Most Cited Paper and Author in *Atmospheric Environment* (2019)
- Journal High Impact Paper, *Hypertension* (2021)
- Journal Highlight Article, *Atmospheric Chemistry and Physics* (2020)

- Journal Highlight Article, *Journal of Geophysical Research-Atmospheres* (2018)

Grants
- NASA Earth Sciences' Applied Science Program [80NSSC21K1980], 2021–Now, Co-Investigator
- NASA Earth Sciences' Applied Science Program [80NSSC21K0428], 2021–Now, Co-Investigator

Editorial and Reviewer Services
- Editor, *Earth System Science Data* (IF = 11.815), 2022–Now
- Review Editor, Frontiers in Earth Science (IF = 3.661), 2022–Now
- Topic Editor, *Big Earth Data*, 2021–Now
- Editorial Board Member, *Remote Sensing* (IF = 5.349), 2022–Now
- Editorial Board Member, *International Journal of Digital Earth* (SCI = 4.606), 2022–Now
- Youth Editorial Board Member, *Remote Sensing Technology and Application (Chinese)*, 2021–Now
- Youth Editorial Board Member, *Journal of Atmospheric and Environmental Optics (Chinese)*, 2022–Now
- Youth Editorial Board Member, *Journal of Environmental Hygiene (Chinese)*, 2022–Now
- Guest Editors: *Atmospheric Measurement Techniques* (2021–Now), *Frontiers in Earth Science* (2021–Now), *Frontiers in Environmental Science* (2021–Now), *Sustainability* (2021–Now), *Atmosphere* (2022–Now), *National Remote Sensing Bulletin (Chinese)* (2021–Now), *Frontiers in Public Health* (2022)
- Journal Reviewers (50+): *Remote Sensing of Environment*, *Environmental Science & Technology*, *Journal of Geophysical Research-Atmospheres*, *Geophysical Research Letters*, *Atmospheric Chemistry and Physics*, *IEEE Transactions on Geoscience and Remote Sensing*, *The Lancet Regional Health – Americas*, et al.

Membership and Service
- Co-Chair, Atmospheric Environmental Remote Sensing Society (AERSS) ECPC, 2022-Now
- Co-Convener/Co-Chair, Asia Oceania Geosciences Society (AOGS) Section, 2022 **(Top Conveners)**
- Members: American Geophysical Union (AGU), American Meteorological Society (AMS), Asia Oceania Geosciences Society (AOGS), Chinese-American Oceanic and Atmospheric Association (COAA)

Invited Seminar
- **Wei, J.** University of Maryland, College Park, MD USA, November 3, 2022. (Invited **Department Seminar**)
- **Wei, J.** MDPI Remote Sensing, Online, June 25, 2022. **(Chair)**
- **Wei, J.** Lanzhou University, Online, March 26, 2021.
- **Wei, J.** University of Maryland, College Park, MD USA, February 5, 2021.
- **Wei, J.** NASA Goddard Space Flight Center, Greenbelt, MD USA, December 1, 2020.
- **Wei, J.** Zhejiang University, China, September 20, 2020.
- **Wei, J.** Peking University, Beijing, China, July 8, 2019.

Presentations
- **Wei, J.** Full-coverage daily ground-level ozone (O_3) estimation from Bigdata using machine learning across China. Asia Oceania Geosciences Society (AOGS), August 1–5, 2022 (Online).
- **Wei, J.**, and Li, Z. The ChinaHighPM$_{2.5}$ data set: generation, validation, and spatiotemporal variations from 2000 to 2018 in China. AGU Fall Meeting, December 1–17, 2020 (Online).
- **Wei, J.** Satellite-based high-resolution and high-quality fine particulate matters across China. IEEE International Geoscience and Remote Sensing Symposium (IGARSS), September 26 – October 2, 2020 (Online).
- **Wei, J.**, and Li, Z. A regionally-tailored aerosol retrieval algorithm for deriving high-resolution and high accuracy aerosol optical depth over Eastern China. AGU Fall Meeting, December 10–14, 2018, Washington D.C., USA.

Digital Background
- [Google Scholar](): **H-index** = 32, **Total Citations** = 3,515
- [Scopus](): **H-index** = 33, **Total Citations** = 3,401
- [Web of Science](): **H-index** = 29, **Total Citations** = 2,890