

Jing Wei, Ph.D. (Updated to 5/2023)

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Homepage: <https://weijing-rs.github.io/index.html>

Biography

I am specialized in air quality, aerosols, particulate matter (PM), trace gases, and clouds by means of remote sensing, big data, and artificial intelligence (AI). Up to now, I have authored **70** SCI papers as first or corresponding authors in leading journals such as *RSE*, *ES&T*, *ACP*, *IEEE TGRS*, and *JGR*, including **6 ESI Hot (Top < 0.1%) papers** and **12 ESI Highly Cited (Top < 1%) papers** indicated by the *Web of Science*, and **9** papers have been cited more than 100 times, with the highest one of **300+** times. My total citations are **4400+** times with an H-index of **35** (Google). I was the recipient of the **AGU James R. Holton Award** and on the Stanford University List of the **World's Top 2% Scientists (2021, 2020)**. I have served as an Editor of *Earth System Science Data*, and Associate Editor of *Journal of Geophysical Research: Atmospheres*, and *Remote Sensing*. I have generated the long-term, high-resolution and high-quality datasets of ambient air pollutants in China (CHAP), the United States (USHAP), and the Global World (GHAP), which have been widely used, leading to more than **170** applied publications.

Work Experience

Faculty Research Associate, Department of Atmospheric and Oceanic Science, Earth System Science Interdisciplinary Center, University of Maryland, College Park, USA, 2022–Present.

Postdoctoral Research Scholar, Department of Chemical and Biochemical Engineering, University of Iowa, USA, 2021–2022.

Research Assistant, Center for Earth System Science, Tsinghua University, China, 2017–2018.

Research Assistant, Institute of Space and Earth Information Science, Chinese University of Hong Kong, China, 2017.

Education

Joint Ph.D. in Atmospheric Physics and Atmospheric Environment, University of Maryland, College Park, USA, 2021.

Ph.D. in Global Environmental Change, Beijing Normal University, China, 2021.

M.Sc. in Photogrammetry and Remote Sensing, Shandong University of Science and Technology, China, 2017.

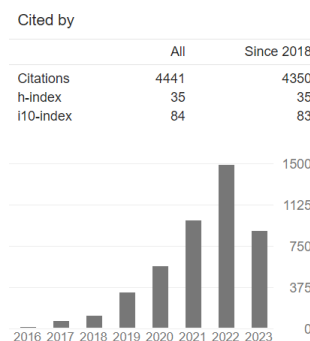
B.Sc. in Remote Sensing Science and Technology, Shandong University of Science and Technology, China, 2014.

Research Interests

- Remote sensing of particulate matter and chemical composition
- Remote sensing of trace and polluted gases
- Remote sensing of atmospheric aerosols
- Air pollutant modelling and health exposure
- Impacts of air pollution on public health, environment, and economy
- Cloud and cloud shadow detection
- Artificial intelligence (machine learning, deep learning, and transfer learning)
- Big data

Publications and Citations

- First/corresponding author: **70**
- [Google Scholar](#): **H-index** = 35, **Total Citations** = 4,441
- [Web of Science](#): **H-index** = 31, **Total Citations** = 3,587
- Five selected journal publications:
 - **Wei, J., 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. **(ESI Hot and Highly Cited Paper, Journal Most Cited Articles since 2018 and 2019) [Citations = 311]**
 - **Wei, J., 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,



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112136. **(ESI Hot and Highly Cited Paper, Journal Most Cited Articles since 2019 and 2020, Top 100 Most Cited Chinese Papers Published in International Journals in 2021, ESSIC 2022 Best Paper Award) [Citations = 285]**

- **Wei, J.**, 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. **(ESI Hot and Highly Cited Paper) [Citations = 240]**
- **Wei, J.**, et al. MODIS Collection 6.1 aerosol optical depth products over land and ocean: validation and comparison. *Atmospheric Environment*, 2019, 201, 428–440. **(ESI Hot and Highly Cited Paper, Journal Most Cited Articles since 2018) [Citations = 206]**
- **Wei, J.**, et al. Satellite-derived 1-km-resolution PM₁ concentrations from 2014 to 2018 across China. *Environmental Science & Technology*, 2019, 53(22), 13265–13274. **(ESI Hot and Highly Cited Paper) [Citations = 154]**
- A full publication list is provided on Page 5–9.

Awards and Honors

- 2022: James R. Holton Award, American Geophysical Union (AGU): *For exceptional contributions to satellite remote sensing of aerosols, particulate matter and trace gases, and assessing the impacts of air pollution.*
- 2022: World's Top 2% Scientists (2021), Stanford University Analysis & Mendeley
- 2022: Top 100 Most Cited Chinese Papers Published in International Journals (2021), Institute of Scientific and Technology Information of China
- 2022: Best Paper Award, Earth System Science Interdisciplinary Center, University of Maryland
- 2021: World's Top 2% Scientists (2020), Stanford University Analysis & Mendeley
- 2021: Zhou Tingru Geography Youth Award, Zhou Tingru Scholarship Secretariat
- 2020: Gao Tingyao Environmental Protection Outstanding Youth Award, Gaotingyao Environmental Protection Technology Development Foundation
- 2019: Li Xiaowen Remote Sensing Science Youth Award, Li Xiaowen Foundation Council
- 2021: Outstanding Graduates (Ph.D.), Beijing
- 2021: Special Prize for Graduate Academic Innovation, Beijing Normal University
- 2019: National Scholarship (Ph.D.), Beijing Normal University
- 2019: National Scholarship (Ph.D.), Beijing Normal University
- 2018: Special Scholarship for Doctoral Freshmen, Beijing Normal University
- 2017: Outstanding Graduates (M.Sc.), Shandong Province
- 2016: Outstanding Scientific & Technological Innovation Achievement Award (Second Prize), Shandong Province
- 2016: National Scholarship (M.Sc.)
- 2015: National Scholarship (M.Sc.)
- 2014: Outstanding Graduates (B.Sc.), Shandong Province

Authorship Recognitions

- ESI Hot Papers (Top < 0.1%), Web of Science [6]:
 - *Remote Sensing of Environment* (Wei et al., 2022, 2021, 2019)
 - *Atmospheric Chemistry and Physics* (Wei et al., 2020)
 - *Environmental Science & Technology* (Wei et al., 2019)
 - *Atmospheric Environment* (Wei et al., 2019)
- ESI Highly Cited Papers (Top < 1%), Web of Science [14]:
 - *Remote Sensing of Environment* (Wei et al., 2022, 2021, 2019)
 - *Environmental Science & Technology* (Wei et al., 2022; 2019)
 - *Journal of Cleaner Production* (Xue et al., 2022)
 - *Environment International* (Wei et al., 2021)
 - *Atmospheric Chemistry and Physics* (Wei et al., 2021, 2020, 2019)
 - *Science of the Total Environment* (Wei et al., 2021)
 - *Atmospheric Environment* (Wei et al., 2019, 2018)
 - *Remote Sensing* (He et al., 2018)
- Journal rankings, Exaly [3]:

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- 1st most cited paper, *Remote Sensing of Environment* (Wei et al., 2021)
- 1st most cited paper, *Atmospheric Environment* (Wei et al., 2019)
- 1st most cited author, *Atmospheric Environment* (Wei et al., 2019)
- Journal Most Cited Articles [4] published in:
 - *Remote Sensing of Environment* since 2020 (Wei et al., 2021)
 - *Remote Sensing of Environment* since 2019 (Wei et al., 2021, 2019)
 - *Remote Sensing of Environment* since 2018 (Wei et al., 2019)
 - *Atmospheric Environment* since 2018 (Wei et al., 2019)
- Journal Highlight or High Impact Article [3]:
 - *Hypertension* (Xu et al., 2021)
 - *Atmospheric Chemistry and Physics* (Liu et al., 2020)
 - *Journal of Geophysical Research Atmospheres* (Wei et al., 2018)

Research Grants

- NASA Earth Sciences' Applied Science Program:
 - *Generation of Integrated Aerosol Fine-Mode Fraction and Surface Particulate Matter from LEO- and GEO Satellites in Asia Using Machine-Learning Models* [80NSSC21K1980], 2021–Present, Co-Investigator
 - *Enrich and enhance the application of TEMPO and GEOS data products for regional air quality and public health management under smoke conditions* [80NSSC21K0428], 2021–Present, Co-Investigator
- Interdisciplinary Research Fund for the First-Year Doctoral Candidates [BNUXKJC1808], Beijing Normal University, 2018–2019, PI
- Graduate Innovation Fund [SDKDYC170103], Shandong University of Science and Technology, 2016–2017, PI
- Graduate Innovation Fund [YC150103], Shandong University of Science and Technology, 2015–2016, PI
- Graduate Innovation Fund [YC140307], Shandong University of Science and Technology, 2014–2015, PI

Professional Service

- Editorship
 - Editor, *Earth System Science Data* (IF = 11.8), 2022–Present
 - Associate Editor, *Journal of Geophysical Research: Atmospheres* (IF = 5.2), 2023–Present
 - Associate Editor, *Remote Sensing* (IF = 5.3), 2022–Present
 - Topic Editor, *Big Earth Data* (2021–Present)
 - Review Editor, *Frontiers in Earth Science* (2022–Present)
 - Editorial Board Member: *International Journal of Digital Earth* (2022–Present)
 - Youth Editorial Board Member: *The Innovation* (2022–Present)
 - Youth Editorial Board Member: *Remote Sensing Technology and Application (Chinese)*, 2022–Present
 - Youth Editorial Board Member: *Journal of Atmospheric and Environmental Optics (Chinese)*, 2022–Present
 - Youth Editorial Board Member: *Journal of Environmental Hygiene (Chinese)*, 2022–Present
 - Guest Editor, *Remote Sensing* (2021–Present)
 - Guest Editor, *Atmospheric Measurement Techniques* (2021–Present)
 - Guest Editor, *Sustainability* (2021–Present),
 - Guest Editor, *Frontiers in Earth Science* (2021–2022)
 - Guest Editor, *Frontiers in Environmental Science* (2021–2022)
 - Guest Editor, *Frontiers in Public Health* (2022)
 - Guest Editor, *Atmosphere* (2022)
 - Guest Editor, *National Remote Sensing Bulletin (Chinese)* (2021–2022)
- Scientific committee:
 - Executive Secretary, Chinese-American Oceanic and Atmospheric Association (COAA), 2023–Present
 - Co-Chair, Early Career and Postgraduate Committee (ECPC), Atmospheric Environmental Remote Sensing Society (AERSS), 2022–Now
- Convener/ Chair of conference symposium/session:
 - Co-Convener/Co-Chair, Asia Oceania Geosciences Society (AOGS) Section, 2022 (**Top Conveners**)
- Journal Reviewer (160+ peer reviews for 50+ journals):
 - Remote Sensing: *Remote Sensing of Environment*, *IEEE Transactions on Geoscience and Remote Sensing*, *ISPRS Journal of Photogrammetry and Remote Sensing*, *International Journal of Remote Sensing*, et al.

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- Atmospheric Science: *Journal of Geophysical Research: Atmospheres*, *Geophysical Research Letters*, *Atmospheric Chemistry and Physics*, *Agricultural and Forest Meteorology*; et al.
- Environmental Science: *Environmental Science & Technology*, *Environment International*, *Environmental Pollution*, *Science of the Total Environment*, *Environmental Research Letters*, et al.
- Public health and others: *The Lancet Regional Health - Americas*; *Earth System Science Data*; *Big Earth Data*; *Energy Economics*; *Journal of Quantitative Spectroscopy and Radiative Transfer*; et al.

Selected Invited Seminars

Total seminars: **22** talks (**1** Chair).

- Climate Chedann Seminar, Climate Dynamics Group, February 4, 2023.
- AOSC Seminar, University of Maryland, College Park, November 3, 2022.
- University of Science and Technology of China, October 21, 2022.
- MDPI Remote Sensing, June 25, 2022. (**Chair**)
- China Research Academy of Environmental Sciences, July 8, 2021.
- China Clean Air Policy Partnership, Tsinghua University, April 6, 2021.
- Lanzhou University, China, March 26, 2021.
- Brown bag seminar, University of Maryland, College Park, February 5, 2021.
- Nanjing University of Information Science and Technology, December 29, 2020.
- NASA Goddard Space Flight Center, December 1, 2020.
- Ministry of Ecology and Environment Center for Satellite Application on Ecology and Environment, November 25, 2020.
- Zhejiang University, September 20, 2020.
- Peking University, July 8, 2019.

Selected Presentations

Conference Presentations: **15** talks (**2** invited), **8** posters.

- **Wei, J.** Tracking Ambient Particulate Matter and Chemical Composition from Space using AI, MODIS/VIIRS Science Team Meeting, May 3, 2023, College Park, MD, USA.
- **Wei, J.** ChinaHighAirPollutants (CHAP) dataset driven by multi-source satellite remote sensing, Land Remote Sensing Products Frontier Dynamics and Data Use Learning Conference, February 19, 2023. (**Invited Talk**)
- **Wei, J.** Two-decade fine-scale surface PM_{2.5} estimates and spatiotemporal variations in China using machine learning, American Meteorological Society (AMS) Annual Meeting, January 10, 2023. (Online)
- **Wei, J.** Tracking ambient air pollution from space integrating Big Data and artificial intelligence. American Geophysical Union (AGU) Fall Meeting, December 12–16, 2022, Chicago, IL, USA. (**Invited Talk**)
- **Wei, J.** Satellite-derived daily fine-scale surface NO₂ concentrations in China by combining machine and deep learning models. American Geophysical Union (AGU) Fall Meeting, December 12–16, 2022, Chicago, IL, USA.
- **Wei, J.** Hourly PM_{2.5} estimations from Himawari-8/AHI aerosol products across China via machine learning. Advancement of POLarimetric Observations (APOLO), August 9–12, 2022, Washington D.C., USA.
- **Wei, J.** Full-coverage daily ground-level ozone (O₃) estimation from Bigdata using machine learning across China. Asia Oceania Geosciences Society (AOGS), August 1–5, 2022. (Online)

Student Guidance

- Fan Cheng (Postgraduate student, 2022–Present): 1 paper in preparation
- Zeyu Yang (Postgraduate student, 2022–Present): 1 paper in preparation
- Zhongyan Tian (Postgraduate student, 2022–Present): 1 paper in preparation
- Zhihui Wang (Postgraduate student, 2022–2023): 1 paper in preparation
- Shulin Pang (Postgraduate student, 2022–2023): 1 paper published (Pang et al., *RS*, 2023)
- Xinyao Li (Postgraduate student, 2021–2022): 1 paper published (Li et al., *JCP*, 2022)
- Zhendong Sun (Postgraduate student, 2020–2021): 1 paper published (Sun et al., *RS*, 2021)
- Yulei Chi (Postgraduate student, 2018–2019): 1 paper published (Chi et al., 2019 [Chinese])
- Quan Wang (Postgraduate student, 2018–2019): 1 paper published (Wang et al., 2018 [Chinese])
- Tianlong Zhang (Undergraduate student, 2016): 1 paper published (Zhang et al., 2016 [Chinese])

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First/corresponding-authors' publications (70) [Citations > 100]

(Full list at: <https://weijing-rs.github.io/publication.html>)

(*: Corresponding author; #: Co-first author)

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1. **Wei, J.***, Li, Z., Chen, X., Li, C., Sun, Y., Wang, J., Lyapustin, A., Brasseur, G., Jiang, M., Sun, L., Wang, T., Jung, C., Qiu, B., Fang, C., Liu, X., Hao, J., Wang, Y., Zhan, M., Song, X., and Liu, Y. Separating daily 1 km PM_{2.5} inorganic chemical composition in China since 2000 via deep learning integrating ground, satellite, and model data. *Environmental Science & Technology*, 2023. <https://doi.org/10.1021/acs.est.3c00272>
2. **Wei, J.***, Li, Z., Wang, J., Li, C., Gupta, P., and Cribb, M. Ground-level gaseous pollutants (NO₂, SO₂, and CO) in China: daily seamless mapping and spatiotemporal variations. *Atmospheric Chemistry and Physics*, 2023, 23, 1511–1532. <https://doi.org/10.5194/acp-23-1511-2023>
3. Cai, M., **Wei, J.#**, Zhang, S., Liu, W., Wang, L., Qian, Z., Lin, H., Liu, E., McMillin, S., Cao, Y., and Yin, P. Short-term air pollution exposure associated with death from kidney diseases: a nationwide time-stratified case-crossover study in China from 2015 to 2019. *BMC Medicine*, 2023, 21, 32. <https://doi.org/10.1186/s12916-023-02734-9>
4. Cai, M., Lin, X., Wang, X., Zhang, S., Qian, Z., McMillin, S., Aaron, H., Lin, H., **Wei, J.***, Zhang, Z., and Pan, J. Ambient particulate matter pollution of different sizes associated with recurrent stroke hospitalization in China: A cohort study of 1.07 million stroke patients. *Science of The Total Environment*, 2023, 856, 159104. <https://doi.org/10.1016/j.scitotenv.2022.159104>
5. Hu, M., **Wei, J.#**, Hu, Y., Guo, X., Li, Z., Liu, Y., Li, S., Xue, Y., Li, Y., Liu, M., Wang, L., and Liu, X. Long-term effect of submicronic particulate matter (PM₁) and intermodal particulate matter (PM_{1-2.5}) on incident dyslipidemia in China: A nationwide 5-year cohort study. *Environmental Research*, 2023, 216, 114860. <https://doi.org/10.1016/j.envres.2022.114860>
6. Li, M., Edgell, R., **Wei, J.#**, Li, H., Qian, Z., Feng, J., Tian, F., Wang, X., Xin, Q., Cai, M., and Lin, H. Air pollution and stroke hospitalization in the Beibu Gulf Region of China: A case-crossover analysis. *Ecotoxicology and Environmental Safety*, 2023, 255, 114814. <https://doi.org/10.1016/j.ecoenv.2023.114814>
7. Li, S., **Wei, J.#**, Hu, Y., Liu, Y., Hu, M., Shi, Y., Xue, Y., Liu, M., Xie, W., Guo, X., and Liu, X. Long-term effect of intermediate particulate matter (PM_{1-2.5}) on incident asthma among middle-aged and elderly adults: A national population-based longitudinal study. *Science of The Total Environment*, 2023, 859, 160204. <https://doi.org/10.1016/j.scitotenv.2022.160204>
8. Liu, W., Cai, M., Long, Z., Tong, X., Li, Y., Wang, L., Zhou, M., **Wei, J.***, Lin, H., and Yin, P. Association between ambient sulfur dioxide pollution and asthma mortality: Evidence from a nationwide analysis in China. *Ecotoxicology and Environmental Safety*, 2023, 249, 114442. <https://doi.org/10.1016/j.ecoenv.2022.114442>
9. Pang, S., Sun, L., Tian, Y., Ma, Y., and **Wei, J.***. Convolutional neural network-driven improvements in global cloud detection for Landsat 8 and transfer learning on Sentinel-2 imagery. *Remote Sensing*, 2023, 15(6), 1706. <https://doi.org/10.3390/rs15061706>
10. Wang, Y., **Wei, J.#**, Zhang, Y., Guo, T., Chen, S., Wu, W., Chen, S., Li, Z., Qu, Y., Xiao, J., Deng, X., Liu, Y., Du, Z., Zhang, W., and Hao, Y. Estimating causal links of long-term exposure to particulate matters with all-cause mortality in South China. *Environment International*, 2023, 171, 107726. <https://doi.org/10.1016/j.envint.2022.107726>
11. Xu, R., Huang, S., Shi, C., Wang, R., Liu, T., Li, Y., Zheng, Y., Lv, Z., **Wei, J.***, Sun, H., and Liu, Y. Extreme temperature events, fine particulate matter, and myocardial infarction mortality. *Circulation*, 2023, In Press.
12. Zhang, F., Tang, H., Zhao, D., Zhang, X., Zhu, S., Zhao, G., Zhang, X., Li, T., **Wei, J.***, Li, D., and Zhu, W. Short-term exposure to ambient particulate matter and mortality among HIV/AIDS patients: Case-crossover evidence from all counties of Hubei province, China. *Science of The Total Environment*, 2023, 857, 159410. <https://doi.org/10.1016/j.scitotenv.2022.159410>
13. Zhang, X., Zhang, F., Gao, Y., Zhong, Y., Zhang, Y., Zhao, G., Zhu, S., Zhang, X., Li, T., Chen, B., Han, A., **Wei, J.***, Zhu, W., and Li, D. Synergic effects of PM₁ and thermal inversion on the incidence of small for gestational age infants: a weekly-based assessment. *Journal of Exposure Science & Environmental Epidemiology*, 2023, 1-11. <https://doi.org/10.1038/s41370-023-00542-0>

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14. Zhang, Y., **Wei, J.**[#], Liu, C., Cao, W., Zhang, Z., Li, Y., Zeng, Q., and Sun, S. Association between ambient PM₁ and semen quality: A cross-sectional study of 27,854 men in China. *Environment International*, 2023, 175, 107919. <https://doi.org/10.1038/s41370-023-00542-0>

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15. **Wei, J.**^{*}, Li, Z., Li, K., Dickerson, R., Pinker, R., Wang, J., Liu, X., Sun, L., Xue, W., and Cribb, M. Full-coverage mapping and spatiotemporal variations of ground-level ozone (O₃) pollution from 2013 to 2020 across China. *Remote Sensing of Environment*, 2022, 270, 112775. <https://doi.org/10.1016/j.rse.2021.112775> (**ESI Hot and Highly Cited Paper**) [101]
16. **Wei, J.**^{*}, Liu, S., Li, Z., Liu, C., Qin, K., Liu, X., Pinker, R., Dickerson, R., Lin, J., Boersma, K., Sun, L., Li, R., Xue, W., Cui, Y., Zhang, C., and Wang, J. Ground-level NO₂ surveillance from space across China for high resolution using interpretable spatiotemporally weighted artificial intelligence. *Environmental Science & Technology*, 2022, 56(14), 9988–9998. <https://doi.org/10.1021/acs.est.2c03834> (**ESI Highly Cited Paper**)
17. **Wei, J.**^{*}, Li, Z., Sun, L., Xue, X., Ma, Z., Liu, L., Fan, T., and Cribb, M. 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. <https://doi.org/10.1109/TGRS.2021.3050999>
18. Chen, L., Gao, D., Ma, T., Chen, M., Li, Y., Ma, Y., Wen, B., Jiang, J., Wang, X., Zhang, J., Chen, S., Wu, L., Li, W., Liu, X., Guo, X., Huang, S., **Wei, J.**^{*}, Song, Y., Ma, J., and Dong, Y. Ambient gaseous pollutant exposure and incidence of visual impairment among children and adolescents: findings from a longitudinal, two-center cohort study in China. *Environmental Science and Pollution Research*, 2022, 29, 73262–73270. <https://doi.org/10.1007/s11356-022-20025-3>
19. He, F., **Wei, J.**[#], Dong, Y., Liu, C., Zhao, K., Peng, W., Lu, Z., Zhang, B., Xue, F., Guo, X., and Jia, X. Associations of ambient temperature with mortality for ischemic and hemorrhagic stroke and the modification effects of greenness in Shandong Province, China. *Science of The Total Environment*, 2022, 851, 158046. <https://doi.org/10.1016/j.scitotenv.2022.158046>
20. Li, X., Xue, W., Wang, K., Che, Y., and **Wei, J.**^{*} Environmental regulation and synergistic effects of PM_{2.5} control in China. *Journal of Cleaner Production*, 2022, 337, 130438. <https://doi.org/10.1016/j.jclepro.2022.130438>
21. Lin, H., Zhu, J., Jiang, P., Cai, Z., Yang, X., Zhou, Z., and **Wei, J.**^{*} Assessing drivers of coordinated control of ozone and fine particulate pollution: Evidence from Yangtze River Delta in China. *Environmental Impact Assessment Review*, 2022, 96, 106840. <https://doi.org/10.1016/j.eiar.2022.106840>
22. Liu, W., **Wei, J.**[#], Cai, M., Qian, Z., Long, Z., Wang, L., Vaughn, M., Aaron, H., Tong, X., Li, Y., Yin, P., Lin, H., and Zhou, M. Particulate matter pollution and asthma mortality in China: A nationwide time-stratified case-crossover study from 2015 to 2020. *Chemosphere*, 2022, 308, 136316. <https://doi.org/10.1016/j.chemosphere.2022.136316>
23. Song, J., Du, P., Yi, W., **Wei, J.**[#], Fang, J., Pan, R., Zhao, F., Zhang, Y., Xu, Z., Sun, Q., Liu, Y., Chen, C., Cheng, J., Liu, Y., Li, T., Su, H., and Shi, X. Using an exposome-wide approach to explore the impact of urban environments on blood pressure among adults in Beijing–Tianjin–Hebei and surrounding areas of China. *Environmental Science & Technology*, 2022, 56, 8395–8405. <https://doi.org/10.1021/acs.est.1c08327>
24. Song, J., Ding, Z., Zheng, H., Xu, Z., Cheng, J., Pan, R., Yi, W., **Wei, J.**^{*}, and Su, H. Short-term PM₁ and PM_{2.5} exposure and asthma mortality in Jiangsu Province, China: What's the role of neighborhood characteristics? *Ecotoxicology and Environmental Safety*, 2022, 241, 113765. <https://doi.org/10.1021/acs.est.1c08327>
25. Wang, L., Zhang, J., **Wei, J.**[#], Zong, J., Lu, C., Du, Y., and Wang, Q. Role of liver enzymes in the relationship between particulate matter exposure and diabetes risk: a longitudinal cohort study. *Environmental Pollution*, 2022, 312, 120020. <https://doi.org/10.1016/j.envpol.2022.120020>
26. Wang, X., Guo, B., Yang, X., Li, J., Baima, Y., Yin, J., Yu, J., Xu, H., Zeng, C., Feng, S., **Wei, J.**^{*}, Hong, F., and Zhao, X. Role of liver enzymes in the relationship between particulate matter exposure and diabetes risk: a longitudinal cohort study. *Journal of Clinical Endocrinology & Metabolism*, 2022, 107, e4086–e4097. <https://doi.org/10.1210/clinem/dgac438>
27. Wang, Y., Cao, R., Xu, Z., Jin, J., Wang, J., Yang, T., **Wei, J.**^{*}, Huang, J., and Li, G. Long-term exposure to ozone and diabetes incidence: A longitudinal cohort study in China. *Science of the Total Environment*, 2022, 816, 151634. <https://doi.org/10.1016/j.scitotenv.2021.151634>

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28. Wu, H., Zhang, B., **Wei, J.**[#], Lu, Z., Zhao, M., Liu, W., Bovet, P., Guo, X., and Xi, B. Short-term effects of exposure to ambient PM₁, PM_{2.5}, and PM₁₀ on ischemic and hemorrhagic stroke incidence in Shandong Province, China. *Environmental Research*, 2022, 212, 113350. <https://doi.org/10.1016/j.envres.2022.113350>
29. Wu, H., Zhang, Y., Zhao, M., Liu, W., Magnussen, C., **Wei, J.**^{*}, and Xi, B. Short-term effects of exposure to ambient PM₁ on blood pressure in children and adolescents aged 9 to 18 years in Shandong Province, China. *Atmospheric Environment*, 2022, 283, 119180. <https://doi.org/10.1016/j.atmosenv.2022.119180>
30. Xiong, J., Li, J., Wu, X., Wolfson, J., Lawrence, J., Stern, R., Koutrakis, P., **Wei, J.**^{*}, and Huang, S. The association between daily-diagnosed COVID-19 morbidity and short-term exposure to PM₁ is larger than associations with PM_{2.5} and PM₁₀. *Environmental Research*, 2022, 210, 113016. <https://doi.org/10.1016/j.envres.2022.113016>
31. Xu, R., **Wei, J.**[#], Liu, T., Li, Y., Yang, C., Shi, C., Chen, G., Zhou, Y., Sun, H., and Liu, Y. Association of short-term exposure to ambient PM₁ with total and cause-specific cardiovascular disease mortality. *Environment International*, 2022, 169, 107519. <https://doi.org/10.1016/j.envint.2022.107519>
32. Xue, W., Zhang, J., Hu, X., Yang, Z., and **Wei, J.**^{*} Hourly seamless surface O₃ estimates by integrating the chemical transport and machine learning models in the Beijing-Tianjin-Hebei region. *International Journal of Environmental Research and Public Health*, 2022, 19, 8511. <https://doi.org/10.3390/ijerph19148511>
33. Yan, M., Hou, F., Xu, J., Liu, H., Liu, H., Zhang, Y., Liu, H., Lu, C., Yu, P., **Wei, J.**^{*}, and Tang, N. The impact of prolonged exposure to air pollution on the incidence of chronic non-communicable disease based on a cohort in Tianjin. *Environmental Research*, 2022, 215, 114251. <https://doi.org/10.1016/j.envres.2022.114251>

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34. **Wei, J.**, Li, Z., Lyapustin, A., Sun, L., Peng, Y., Xue, W., Su, T., and Cribb, M. 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. <https://doi.org/10.1016/j.rse.2020.112136> **(ESI Hot and Highly Cited Paper, Journal Most Cited Articles since 2019 and 2020, Top 100 Most Cited Chinese Papers Published in International Journals, ESSIC 2022 Best Paper Award) [285]**
35. **Wei, J.**^{*}, Li, Z., Xue, W., Sun, L., Fan, T., Liu, L., Su, T., and Cribb, M. The ChinaHighPM₁₀ dataset: generation, validation, and spatiotemporal variations from 2015 to 2019 across China. *Environment International*, 2021, 146, 106290. <https://doi.org/10.1016/j.envint.2020.106290> **(ESI Highly Cited Paper) [105]**
36. **Wei, J.**^{*}, Li, Z., Pinker, R., Wang, J., Sun, L., Xue, W., Li, R., and Cribb, M. 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. <https://doi.org/10.5194/acp-21-7863-2021> **(ESI Highly Cited Paper)**
37. Guo, H., Li, X., Li, W., Wu, J., and **Wei, J.**^{*} Climatic modification effects on the association between PM₁ and lung cancer incidence in China. *BMC Public Health*, 2021, 21, 880. <https://doi.org/10.1186/s12889-021-10912-8>
38. He, L., Wang, L., Li, Z., Jiang, D., Sun, L., Liu, D., Liu, L., Yao, R., Zhou, Z., and **Wei, J.**^{*} VIIRS Environmental Data Record and Deep Blue aerosol products: validation, comparison, and spatiotemporal variations from 2013 to 2018 in China. *Atmospheric Environment*, 2021, 250, 118265. <https://doi.org/10.1016/j.atmosenv.2021.118265>
39. Lu, D., Mao, W., Zheng, L., Xiao, W., Zhang, L., and **Wei, J.**^{*} Ambient PM_{2.5} estimates and variations during COVID-19 pandemic in the Yangtze River Delta using machine learning and big data. *Remote Sensing*, 2021, 13(8), 1423. <https://doi.org/10.3390/rs13081423>
40. Sun, Z., **Wei, J.**[#], Zhang, N., He, Y., Sun, Y., Liu, X., Yu, H., and Sun, L. Retrieving high-resolution aerosol optical depth from GF-4 PMS imagery in Eastern China. *Remote Sensing*, 2021, 13, 3752. <https://doi.org/10.3390/rs13183752>
41. Tian, X., Liu, Q., Gao, Z., Wang, Y., Li, X., and **Wei, J.**^{*} Improving MODIS aerosol estimates over land with the surface BRDF reflectances using the 3-D discrete cosine transform and RossThick-LiSparse models. *IEEE Transactions on Geoscience and Remote Sensing*, 2021, 59(12), 9851-9860. <https://doi.org/10.1109/TGRS.2020.3048109>
42. Wang, X., Xu, Z., Ho, H., Song, Y., Zheng, H., Hossain, M., Khan, M., Bogale, D., **Wei, J.**^{*}, and Cheng, J. Ambient particular matters (PM₁, PM_{2.5}, PM₁₀) and childhood pneumonia: the smaller particle, the greater short-term impact? *Science of the Total Environment*, 2021, 772, 145509. <https://doi.org/10.1016/j.scitotenv.2021.145509>

Jing Wei, Ph.D. (Updated to 5/2023)

43. Xue, W., Zhang, J., Zhong, C., Li, X., and **Wei, J.*** Spatiotemporal PM_{2.5} variations and its response to the industrial structure from 2000 to 2018 in the Beijing-Tianjin-Hebei region. *Journal of Cleaner Production*, 2021, 279, 123742. <https://doi.org/10.1016/j.jclepro.2020.123742> **(ESI Highly Cited Paper)**
44. Xue, W., Zhang, J., Ji, D., Che, Y., Lu, T., Deng, X., Li, X., Tian, Y., and **Wei, J.*** Aerosol-induced direct radiative forcing effects on terrestrial ecosystem carbon fluxes over China. *Environmental Research*, 2021, 200, 111464. <https://doi.org/10.1016/j.envres.2021.111464>
45. Xue, W., **Wei, J.#**, Zhang, J., Sun, L., Che, Y., Yuan, M., and Hu, X. Inferring near-surface PM_{2.5} concentrations from the VIIRS Deep Blue aerosol product in China: A spatiotemporally weighted random forest model. *Remote Sensing*, 2021, 13, 505. <https://doi.org/10.3390/rs13030505>
46. Zhang, Y., **Wei, J.#**, Shi, Y., Quan, C., Ho, H., Song, Y., and Zhang, L. Effects of early-life exposure to submicron particulate air pollution on asthma development in Chinese preschool children. *Journal of Allergy and Clinical Immunology*, 2021, 148, 771-782.E12. <https://doi.org/10.1016/j.jaci.2021.02.030>
47. Zheng, H., Yi, W., Ding, Z., Xu, Z., Ho, H., Cheng, J., Hossain, M., Song, J., Fan, Y., Ni, J., Wang, Q., Xu, Y., **Wei, J.***, and Su, H. Evaluation of life expectancy loss associated with submicron and fine particulate matter (PM₁ and PM_{2.5}) air pollution in Nanjing, China. *Environmental Science and Pollution Research*, 2021, 28, 68134–68143. <https://doi.org/10.1007/s11356-021-15244-z>

2020 (3)

48. **Wei, J.**, Li, Z., Cribb, M., Huang, W., Xue, W., Sun, L., Guo, J., Peng, Y., Li, J., Lyapustin, A., Liu, L., Wu, H., and Song, Y. 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. <https://doi.org/10.5194/acp-20-3273-2020> **(ESI Hot and Highly Cited Paper) [240]**
49. **Wei, J.**, Huang, W., Li, Z., Sun, L., Zhu, X., Yuan, Q., Liu, L., and Cribb, M. 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. <https://doi.org/10.1016/j.rse.2020.112005>
50. **Wei, J.***, Li, Z., Sun, L., Peng, Y., Liu, L., He, L., Qin, W., and Cribb, M. MODIS Collection 6.1 3 km resolution aerosol optical depth product: global evaluation and uncertainty analysis. *Atmospheric Environment*, 2020, 240, 117768. <https://doi.org/10.1016/j.atmosenv.2020.117768>

2019 (9)

51. **Wei, J.**, Huang, W., Li, Z., Xue, W., Peng, Y., Sun, L., and Cribb, M. Estimating 1-km-resolution PM_{2.5} concentrations across China using the space-time random forest approach. *Remote Sensing of Environment*, 2019, 231, 111221. <https://doi.org/10.1016/j.rse.2019.111221> **(ESI Hot and Highly Cited Paper, Journal Most Cited Articles since 2018 and 2019) [311]**
52. **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. <https://doi.org/10.1016/j.atmosenv.2018.12.004> **(ESI Hot and Highly Cited Paper, Journal Most Cited Articles since 2018) [206]**
53. **Wei, J.**, Li, Z., Guo, J., Sun, L., Huang, W., Xue, W., Fan, T., and Cribb, M. Satellite-derived 1-km-resolution PM₁ concentrations from 2014 to 2018 across China. *Environmental Science & Technology*, 2019, 53(22), 13265–13274. <https://doi.org/10.1021/acs.est.9b03258> **(ESI Hot and Highly Cited Paper) [154]**
54. **Wei, J.**, Peng, Y., Mahmood, R., Sun, L., and Guo, J. Intercomparison in spatial distributions and temporal trends derived from multi-source satellite aerosol products. *Atmospheric Chemistry and Physics*, 2019, 19, 7183–7207. <https://doi.org/10.5194/acp-19-7183-2019> **(ESI Highly Cited Paper, Cited By IPCC AR6)**
55. **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. <https://doi.org/10.1109/TGRS.2019.2892813>
56. **Wei, J.**, Li, Z., Sun, L., Yang, Y., Zhao, C., and Cai, Z. Enhanced aerosol estimations from Suomi-NPP VIIRS images over heterogeneous surfaces. *IEEE Transactions on Geoscience and Remote Sensing*, 2019, 57(12), 9534–9543. <https://doi.org/10.1109/TGRS.2019.2927432>
57. **Wei, J.**, Li, Z., Sun, L., Peng, Y., Zhang, Z., Li, Z., Su, T., Feng, L., Cai, Z., and Wu, H. Evaluation and uncertainty estimate of the next-generation geostationary meteorological Himawari-8/AHI aerosol products. *Science of the Total Environment*, 2019, 692, 879–891. <https://doi.org/10.1016/j.scitotenv.2019.07.326>

Jing Wei, Ph.D. (Updated to 5/2023)

58. **Wei, J.**, Li, Z., Sun, L., 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. <https://doi.org/10.1016/j.atmosenv.2019.01.016>
59. **Wei, J.**, Peng, Y., Guo, J., and Sun, L. Performance of MODIS Collection 6.1 Level 3 aerosol products in spatial-temporal variations over land. *Atmospheric Environment*, 2019, 206, 30–44. <https://doi.org/10.1016/j.atmosenv.2019.03.001>

2018 (3)

60. **Wei, J.**, Sun, L., Peng, Y., Wang, L., Zhang, Z., Bilal, M., and Ma, Y. An improved high-spatial-resolution aerosol retrieval algorithm for MODIS images over land. *Journal of Geophysical Research Atmospheres*, 2018, 123(21), 12291–12307. <https://doi.org/10.1029/2017JD027795> (**Journal Highlight**)
61. **Wei, J.***, Sun, L., Huang, B., Bilal, M., Zhang, Z., and Wang, L. 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. <https://doi.org/10.1016/j.atmosenv.2017.11.048> (**ESI Highly Cited Paper**)
62. Yang, D., **Wei, J.***, and Zhong, Y. Aerosol optical depth retrieval over Beijing using MODIS satellite images. *Spectroscopy and Spectral Analysis*, 2018, 38(11), 3464–3469.

2017 (3)

63. **Wei, J.**, Huang, B., Sun, L., Zhang, Z., Wang, L., and Bilal, M. A simple and universal aerosol retrieval algorithm for Landsat series images over complex surfaces. *Journal of Geophysical Research Atmospheres*, 2017, 122(24), 13338–13355. <https://doi.org/10.1002/2017JD026922>
64. **Wei, J.**, and Sun, L. Comparison and evaluation of different MODIS aerosol optical depth products over Beijing-Tianjin-Hebei region in China. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 2017, 10(3), 835–844. <https://doi.org/10.1109/JSTARS.2016.2595624>
65. **Wei, J.***, Ming, Y., Jia, Q., and Yang, D. Simple mineral mapping algorithm based on multi-type spectral diagnostic absorption features: a case study at Cuprite, Nevada. *Journal of Applied Remote Sensing*, 2017, 11(2). <https://doi.org/10.1117/1.JRS.11.026015>

Before 2016 (5)

66. **Wei, J.***, Ming, Y., Han, L., Ren, Z., and Guo, Y. Method of remote sensing identification for mineral types based on multiple spectral characteristic parameters matching. *Spectroscopy and Spectral Analysis*, 2015, 35(10), 2862–2866.
67. Sun, L., **Wei, J.***, Wang, J., Mi, X., Guo, Y., Lv, Y., Yang, Y., Gan, P., Zhou, X., Jia, C., and Tian, X. A universal dynamic threshold cloud detection algorithm (UDTCDA) supported by a prior surface reflectance database. *Journal of Geophysical Research Atmospheres*, 2016, 121(12), 7172–7196. <https://doi.org/10.1002/2015JD024722>
68. Sun, L., **Wei, J.***, Bilal, M., Tian, X., Jia, C., Guo, Y., and Mi, X. Aerosol optical depth retrieval over bright areas using Landsat 8 OLI images. *Remote Sensing*, 2016, 8(1), 23. <https://doi.org/10.3390/rs8010023> [**1111**]
69. Sun, L., **Wei, J.***, Duan, D., Guo, Y., Yang, D., Jia, C., and Mi, X. Impact of land-use and land-cover change on urban air quality in representative cities of China. *Journal of Atmospheric and Solar-Terrestrial Physics*, 2016, 142, 43–54. <https://doi.org/10.1016/j.jastp.2016.02.022> [**1111**]
70. Zhang, T., **Wei, J.***, Gan, J., Zhu, Q., and Yang, D. Precipitable water vapor retrieval with MODIS near infrared data. *Spectroscopy and Spectral Analysis*, 2016, 36(8), 2378–2383.