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Education

Tsinghua University, Beijing, China (2009-2014)

- Doctor in Engineering Hydrology, Department of Hydraulic Engineering

Princeton University, Princeton, New Jersey, USA (2011-2012)

- Visiting Graduate Student, Department of Civil and Environmental Engineering

Hohai University, Nanjing, China (2005-2009)

- Bachelor in Terrestrial Hydrology, Department of Hydrology and Water Resources Engineering

Research Expertise

- Flood Hydrology
- Urban Hydrometeorology
- Hydroclimatology

Research Experience

- **Full Professor**, School of Geography and Ocean Science, Nanjing University, Jiangsu Province, China (January 2023 - present)
- **Associate Professor**, School of Geography and Ocean Science, Nanjing University, Jiangsu Province, China (March 2019 - December 2022)
- **Postdoctoral Research Associate**, Department of Civil and Environmental Engineering, Princeton University, Princeton, New Jersey, USA (January 2015 - February 2019)
- **Research Scholar**, Department of Earth, Atmospheric, and Planetary Sciences, Purdue University, West Lafayette, Indiana, USA (September 2014 - January 2015)
- **Research Assistant**, Department of Hydraulic Engineering, Tsinghua University, Beijing, China (September 2009 - July 2014)

Teaching and Mentoring Experience

- **Undergraduate course**: Terrestrial Hydrology (Spring semester), 2019-present
- **Undergraduate course**: Field trip of Physical Geography (Fall semester), 2021-present

- **Undergraduate course:** Seminar on Hydrological cycle as Introduction to Physical Geography (Fall semester), 2019-present
- **Graduate course:** Hydrological Processes (Fall semester), 2020-present
- **Teaching Assistant,** Probability and statistics in environmental engineering, Department of Civil and Environmental Engineering, Princeton University, Fall 2018, Guest lecture entitled "Changes in extreme rainfall: detection, statistical modelling and attribution"
- **Teaching Assistant,** Hydrometeorology, Department of Civil and Environmental Engineering, Princeton University, Spring 2018, Prepared lab materials, and guest lecture entitled "Atmospheric Modeling"
- **Teaching Assistant,** Department of Hydraulic Engineering, Tsinghua University, Fall 2010, 2013 Physical Hydrology, Compulsory course for graduate students in Hydraulic Engineering
- **Teaching Program,** McGraw Center for Teaching and Learning, Princeton University, Fall 2015 Attended workshops on a wide range of topics about teaching skills, as well as discussions with faculty and students, micro-teaching training, and guest lectures.
- **Mentor,** Princeton University, Summer 2016 Mentored three undergraduate students from Cornell University, Johns Hopkins University and Alfred University on urban flooding and regional climate modelling.
- **Mentor,** Princeton University, Summer 2015 Mentored two undergraduate students from Princeton University and Cornell University on watershed modelling and field experiments.

Funded Research Proposals (selected)

- Title: Patterns and drivers of global flood networks (PI)
Funding source: Fundamental Research Funds for the Central Universities, Award: 300,000 RMB.
Award term: Jan 2024 - Dec 2025.
- Title: Hydrology and hydrometeorology of the upper tail floods over China (PI)
Funding source: Natural Science Foundation of China, Award: 510,000 RMB. Award term: Jan 2024 - Dec 2027.
- Title: Extreme rainfall in complex urban environments (PI)
Funding source: Outstanding Young Scholar funding of Jiangsu province, Award: 500,000 RMB.
Award term: June 2023 - June 2026.
- Title: Hydroclimate extremes in East Asia summer monsoon region: processes and changes (PI)
Funding source: Frontiers Science Center for Critical Earth Material Cycling Nanjing University ,
Award: 300,000 RMB. Award term: Jan 2022 - Dec 2022.
- Title: Deciphering changes of river discharge on Tibetan Plateau (Co-PI)
Funding source: Natural Science Foundation of China, Award: 750,000 RMB. Award term: Jan 2021 - Dec 2023.
- Title: Urban hydrology and hydrometeorology (PI)
Funding source: Natural Science Foundation of China, Award: 2,000,000 RMB. Award term: Jan 2021 - Dec 2023.
- Title: Extreme rainfall in urban environments (PI)
Funding source: Natural Science Foundation of China, Award: 300,000 RMB. Award term: Jan 2021 - Dec 2023.
- Title: Flood-producing storms in cities and now-casting algorithms development (PI)
Funding source: Natural Science Foundation of Jiangsu Province, Award: 200,000 RMB. Award term: July 2019 - June 2022.
- Title: Extreme rainfall and flooding in small urban watersheds (PI)
Funding source: Chinese Postdoctoral Scientific Funding, Award: 80,000 RMB. Award term: May 2015 - June 2016.

Peer-Reviewed Publications (First or Corresponding author)

* represents the corresponding author; # indicates the first author is my advisee,

1. **Yang, L.***, Yang, Y., Smith, J., The upper tail of flood peaks over China: hydrology, hydrometeorology, and hydroclimatology. *Water Resources Research*, 57 (11), e2021WR030883, 2021.
2. **Yang, L.***, Smith, J.A., Baeck, M.L., and Zhang, Y., Flash flooding in small urban watershed: storm event hydrologic response, *Water Resources Research*, 52, doi:10.1002/2015WR018326, 2016.
3. Yang, Y.#, **Yang, L.***, Villarini, G., Zhao, F., Huang, D., Vechhi, G., Wang, Q., Sun, Y., and Tian, F., Synchronization of global peak river discharge since the 1980s, *Nature Climate Change*, 15, 1084-1090, 2025.
4. **Yang, L.***, Yang, Y., Shen, Y., Yang, J., Zheng, G., Smith, J., and Niyogi, D., Urban development pattern's influence on extreme rainfall occurrences, *Nature Communications*, 15 (1), 3997, 2024. (ESI Highly cited paper, top 1%)
5. Cui, T., Li, Y., **Yang, L.***, Nan, Y., Li, K., ..., Tian, F., Non-monotonic changes in Asian Water Towers' streamflow at increasing warming levels, *Nature Communications*, 14, 1176, 2023. (**Editor's Highlight**, ESI Highly cited paper, co-first author)
6. **Yang, L.***, Zhang, J., Zhao, F., Wright, D., Li, C., Yamazaki, D., Tan, X., Yu, M., Wang, Q., and Tian, F., Dynamics-constrained rainfall projection reveals substantial increase in population exposure to unprecedented floods in the North China Plain, *Communications Earth & Environment*, 6, 482, 2025.
7. Zhang, J.# and **Yang, L.***, Synoptic origins of extreme riverine floods over the North China Plain with focus on the tail behaviors, *Geophysical Research Letters*, 52(20), e2025GL118216, 2025.
8. Shen, Y.# and **Yang, L.***, Divergent urban signatures in rainfall anomalies explained by pre-storm environment contrast, *Geophysical Research Letters*, 50(5), e2022GL101658, 2023.
9. Wang, Q.#, **Yang, L.***, Yang, Y., Chen, X.*, Contrasting climatic trends of atmospheric river occurrences over East Asia, *Geophysical Research Letters*, 49, e2022GL099646, 2022.
10. **Yang, L.***, Smith, J.A., and Niyogi, D., Urban impacts on extreme monsoon rainfall and flooding in complex terrain, *Geophysical Research Letters*, 46, 5918-5927, 2019.
11. **Yang, L.***, Ni, G., Tian, F., Niyogi, D., Urbanization exacerbated rainfall over European suburbs under a warming climate, *Geophysical Research Letters*, 48 (21), e2021GL095987, 2021.
12. **Yang, L.***, Yang, Y., Villarini, G., Li, X., Hu, H., Wang, L., Blöschl, G., Tian, F.*, Climate more important for Chinese flood changes than reservoirs and land use, *Geophysical Research Letters*, 48(11), e2021GL093061, 2021.
13. **Yang, L.***, Li, K., Shen, Y., and Tian, F., Flood seasonality over the Third Pole region modulated by upper level moisture transport, *Earth's Future*, 10 (9), e2022EF002828, 2022. (**Cover Article**)
14. Yang, Y.#, **Yang, L.***, Chen, X., Wang, Q., and Tian, F., Climate leads to reversed latitudinal changes in Chinese flood peak timing, *Earth's Future*, 10, e2022EF002726, 2022.
15. **Yang, L.***, Villarini, G., Zeng, Z., Smith, J., Liu, M., Li, X., Wang, L., Hou, A.*, Riverine flooding and landfalling tropical cyclones over China, *Earth's Future*, 8 (3), e2019EF001451, 2020.
16. Yang, Y.#, **Yang, L.***, Zhang, J., and Wang, Q., Processes and controls of regional floods over eastern China, *Hydrology and Earth System Sciences*, 28, 4883-4902, 2024.
17. **Yang, L.***, Wang, L., Li, X., Gao, J., et al., On the flood peak distributions over China, *Hydrology and Earth System Sciences*, 23(12), 23, 5133-5149, 2019.
18. **Yang, L.***, Tian, F., Sun, Y., Yuan, X., and Hu, H., Attribution of hydrologic forecast uncertainty within scalable forecast windows, *Hydrology and Earth System Sciences*, 18: 1-12, 2014.

19. Zhang, J.[#] and **Yang, L.***, Yu, M., Chen, X., Response of extreme rainfall to atmospheric warming and wetting: implications for hydrologic designs under a changing climate, *Journal of Geophysical Research: Atmospheres*, 128 (12), e2022JD038430, 2023.
20. **Yang, L.***, Ma, J., Wang, X., and Tian, F., Hydroclimatology and hydrometeorology of flooding over the eastern Tibetan Plateau, *Journal of Geophysical Research: Atmospheres*, 127, 15, e2022JD037097, 2022.
21. **Yang, L.***, Li, Q., Yuan, H., Niu, Z., Wang, L., Impacts of urban canopy on two convective storms with contrasting synoptic conditions over Nanjing, China, *Journal of Geophysical Research: Atmospheres*, 126(9), e2020JD034509, 2021.
22. Yang, Y.[#], Smith, J.A., **Yang, L.***, Baeck, M. L., and Ni, G., Regional impacts of urban irrigation on surface heat fluxes and rainfall in central Arizona, *Journal of Geophysical Research: Atmospheres*, 124, 6393-6410, 2019.
23. Xing, Y., Ni, G., **Yang, L.***, Xing, P., Sun, T., Modeling the impacts of urbanization and open water surface on heavy convective rainfall: a case study over the emerging Xiongan city, China, *Journal of Geophysical Research: Atmospheres*, 124 (16), 9078-9098, 2019.
24. **Yang, L.*** and Smith, J.A., Sensitivity of extreme rainfall to atmospheric moisture content in the arid/semiarid southwestern US: implications for probable maximum precipitation estimates, *Journal of Geophysical Research: Atmospheres*, 123 (3), 1638-1656, 2018.
25. **Yang, L.***, Tian, F., Smith, J.A., and Hu, H., Urban signatures in the spatial clustering of summer heavy rainfall events over the Beijing metropolitan region, *Journal of Geophysical Research: Atmospheres*, 119, 1203-1217, 2014.
26. **Yang, L.***, Smith, J.A., Baeck, M.L., Smith, B.K., Tian, F., and Niyogi, D., Structure and evolution of flash flood producing storms in a small urban watershed, *Journal of Geophysical Research: Atmospheres*, 121: 3139-3152, 2016.
27. **Yang, L.***, Niyogi, D., Mukul, T., Daniel, A., Chen, F., Tian, F., and Ni, G., Contrasting impacts of urban forms on future thermal environment: example of Beijing metropolitan area, *Environmental Research Letters*, 11(3), 2016.
28. Weng, J.[#], Yang, Y., Li, D., Sharma, A., and **Yang, L.***, Spatially coherent changes in Chinese annual flood peaks revealed by a consensus based machine learning framework for regionalization, *Journal of Hydrology*, In press, 2025.
29. Li, D.[#], Shen, Y., Ye, X., Fu, X., Yang, Y., Ou, T., Chen, D., Tian, F., and **Yang, L.***, A Ten-year (2012-2021) fine-resolution (1 km, hourly) precipitation dataset over southeastern Tibetan Plateau, *Scientific Data*, 12, 335, 2025.
30. **Yang, L.***, Smith, J.A., Baeck, M. L., and Morin, E., Flash flooding in arid/Semi-arid regions: climatological analyses of flood-producing storms in central Arizona during North American Monsoon, *Journal of Hydrometeorology*, 20(7), 1449-1471, 2019.
31. **Yang, L.***, Smith, J.A., Baeck, M. L., Morin, E., and Goodrich, D., Flash flooding in arid/semi-arid regions: dissecting the hydrometeorology and hydrology of the 19 August 2014 storm and flood hydroclimatology in Arizona, *Journal of Hydrometeorology*, 18 (12): 3103-3123, 2017.
32. **Yang, L.***, Liu, M., Smith, J.A., and Tian, F., Typhoon Nina and the August 1975 flood over Central China, *Journal of Hydrometeorology*, 18: 451-472, 2017.
33. **Yang, L.***, Smith, J.A., Baeck, M.L., Bou-Zeid, E., Jessup, S., Tian, F., and Hu, H., Impact of urbanization on heavy convective precipitation under strong large-scale forcing: a case study over the Milwaukee-Lake Michigan region, *Journal of Hydrometeorology*, 15: 261-278, 2014.
34. **Yang, L.***, Smith, J.A., Wright, D.B., Baeck, M.L., Villarini, G., Tian, F., and Hu, H., Urbanization and climate change: an examination of nonstationarities in urban flooding, *Journal of Hydrometeorology*, 14: 1791-1809, 2013.

35. **Yang, L.***, Smith, J.A., Liu, M., and Baeck, M. L., Extreme rainfall from Hurricane Harvey (2017): empirical intercomparisons of WRF simulations and polarimetric radar fields, *Atmospheric Research*, 223, 114-131, 2019.
36. **Yang, L.***, Tian, F., and Niyogi, D., A need to revisit hydrologic responses to urbanization by incorporating the feedback on spatial rainfall patterns, *Urban Climate*, 12: 128-140, 2015.
37. **Yang, L.***, Villarini, G., Smith, J.A., Tian, F., and Hu, H., Changes in seasonal maximum daily precipitation in China over the period 1961-2006, *International Journal of Climatology*, 33, 1646-1657, 2013.
38. Li, R.#, Du, J., Bian, G., Wang, Y., Chen, C., Zhang, X., Li, M., Wang, S., Wu, S., Xie, S., **Yang, L.***, and Xu, C., Correction to: An integrated modelling approach for flood simulation in the urbanized Qinhuai River basin, China, *Water Resources Management*, 34, 3985, 2020.
39. Li, R.#, Du, J., Bian, G., Wang, Y., Chen, C., Zhang, X., Li, M., Wang, S., Wu, S., Xie, S., **Yang, L.***, and Xu, C., An integrated modelling approach for flood simulation in the urbanized Qinhuai River basin, China, *Water Resources Management*, 34 (13), 3967-3984, 2020.
40. Wei, Y.#, Cui, Y., Zhou, A., Wang, Q., and **Yang, L.***, The constitutive relationship of basin-scale rainfall-flood response in an urbanized watershed, *Advances in Water Science*, 36(1): 155-165, 2025. (in Chinese with English abstract)
41. Li, C.#, Li, D., Wang, Q., Fu, X., **Yang, L.***, and Tian, F., Future design flood projections in the Parlung Zangbo River Basin under climate change, *Advances in Water Science*, 36(1): 155-165, 2025. (in Chinese with English abstract)
42. Weng, J.#, Yang, Y., Mu, Z., and **Yang, L.***, Mechanisms and spatiotemporal variation characteristics of flooding over northwestern China, *ACTA GEOGRAPHICA SINICA*, 79 (11), 2768-2779, 2024. (in Chinese with English abstract)
43. Shen, Y.#, Zhang, J., Yuan, H., and **Yang, L.***, Urban impacts on the structure and evolution properties of warm-season thunderstorms over Nanjing, China, *Advances in Water Science*, 35 (03), 2024. (in Chinese with English abstract)
44. **Yang, L.***, Tian, F., Sun, T., and Ni, G., Advances in the urban modification on rainfall over Beijing metropolitan region, *Journal of Hydroelectric Engineering*, 34(1): 37-44, 2015. (in Chinese with English abstract)
45. **Yang, L.***, Tian, F., and Hu, H., Modified ESP with information on the atmospheric circulation and teleconnection incorporated and its application, *Journal of Tsinghua University (Sci & Tech)*, 53(5): 606-612, 2013. (in Chinese with English abstract)

Peer-Reviewed Publications (co-author)

* represents the corresponding author; # represents the co-first author

46. Wang, D., Tan, X.*, Wu, X., Huang, Z., Deng, S., Liu, Y., Fu, J., Tan, X., Cai, X., Liu, B., Shi, H., **Yang, L.**, Liu, B., Dynamic development of global contiguous flash droughts: from an event-based spatiotemporal perspective, *Journal of Hydrology*, 662, 133934, 2025.
47. Xiong, J., Yang, Y.*, **Yang, L.**, Yang, D., Asymmetric shifts in precipitation due to urbanization across global cities, *Nature Communications*, 16, 5802, 2025.
48. Chen, A., Wang, J., Toumi, R., Huang, H., **Yang, L.**, Chen, D., He, B., Liu, J.*, Impact of tropical cyclone precipitation on fluvial discharge in the LancangMekong River Basin, *Geophysical Research Letters*, 52(8), e2024GL113199, 2025.
49. Guo, Y., Wu, M.*, **Yang, L.**, and Zuo, P., Asynchronous changes in vegetation greenness and climate variables isolines during 1986-2020 over the Tibetan Plateau, *Geophysical Research Letters*, 52(2), e2024GL111652, 2025.

50. Tong, C., Chen, R.* , **Yang, L.**, Pan, Y., Yuan, Q., Ma, J., and Wang, L.* , Detecting topographic effect and urban signature in long-term summer rainfall trend in a complex urban environment, *Urban Climate*, 58, 102159, 2024.
51. Chen, R., Shen, W., Chen, Z., **Yang, L.**, Fei, G., Chen, X., and Wang, L.* , Modulation of soil nitrous oxide emissions and nitrogen leaching by hillslope hydrological processes, *Science of the Total Environment*, 951, 175637, 2024.
52. Li, D.* , Marshall, L.* , Sharma, A., Zhou, Y., **Yang, L.**, Liang, Z., and Yao, Y., Enhancing Probabilistic Hydrological Predictions with Mixture Density Networks: Accounting for Heteroscedasticity and Non-Gaussianity. *Journal of Hydrology*, 131737, 2024.
53. Chen, R., Shen, W., Tong, C., Guo, J., **Yang, L.**, Ma, X., Xin, H., Yao, Y., and Wang, L.* , Contrasting nitrogen transport patterns in subtropical basins revealed by combined multiple isotopic analyzes and hydrological simulations. *Water Research*, 262, 122058, 2024.
54. Liu, J., Xing, Y., Li, D., **Yang, L.**, and Ni, G.* , Statistical and modeling analyses of urban impacts on winter precipitation. *Urban climate*, 56, 102038, 2024.
55. Yang, F., Lu, H.* , Wu, H., Wang, J., Yang, K., **Yang, L.**, and Li, Y., Estimation of annual water erosion in Mu Us Sandy Land, *ACTA GEOGRAPHICA SINICA*, 79(3), 635-653, 2024. (in Chinese with English abstract)
56. Dong, X., Wang, X.* , **Yang, L.**, Zhao, Z.* , Balen, R., Miao, X., Liu, T., Vandenberghe, J., Pan, B., Gibling, M., and Lu, H., Quantitative assessment of the erosion and deposition effects of landslidedam outburst flood, Eastern Himalaya. *Scientific Report*, 14, 7038, 2024.
57. Tian, F., Nan, Y., Ni, G., **Yang, L.**, Tang, Q., and Grey, D., Is the Tibetan Plateau really a water tower? *Hydrological Processes*, 38(3), e15103, 2024.
58. Qin, J. Xing, Y., Liu, J., Nakhaei, P., Hamamy, W., Li, B., **Yang, L.**, and Ni, G.* , Modelling analysis of the potential impact of large reservoir on heatwave events, *Ecological Indicators*, 154, 110841, 2023.
59. Tian, F.* , Li, K., Han, S., and **Yang, L.**, Dipole Spatiotemporal Variations of River Runoff in Eastern Tibetan Plateau, *Advances in Water Science*, 34(4): 481-489, 2023. (in Chinese with English abstract)
60. Wang, Q., Cai, X.* , Tang, J., **Yang, L.**, Wang, J., Xu, Y.* , Climate feedbacks associated with land-use and land-cover change on hydrological extremes over the Yangtze river delta region, China. *Journal of Hydrology*, 623, 129855, 2023.
61. Kreibich, H., Schrter, K., Di Baldassarre, G., ...(omitting 91 authors)..., **Yang, L.**, Zambrano-Bigiarini M., Ward, P., Panta Rhei benchmark dataset: socio-hydrological data of paired events of floods and droughts. *Earth System Science Data*, 15 (5), 20092023, 2023.
62. Wang, Q., Xu, Y.* , **Yang, L.**, Tong, J., Lin, Z., and Gao, B., Characteristics, variation and driving mechanisms of floods in past 50 years based on multi-scale perspectives in the Taihu Plain region, *ACTA GEOGRAPHICA SINICA*, 78 (5), 2023. (in Chinese with English abstract)
63. Chen, H., Wu, M., Duan, Z., Zha, Y., Wang, S., **Yang, L.**, Zou, L., Zeng, M., Chen, P., Cao, W., Zhang, W., Forecasting the human and climate impacts on groundwater resources in the irrigated agricultural region of North China Plain, *Hydrological processes*, 37(3), e14853, 2023.
64. Wang, J., Miao, S., Doan, Q. V., Chen, F., Abolafia-Rosenzweig, R., **Yang, L.**, Zhang, G., Zhang, Y., Dou, J., and Xu, Y., Quantifying the impacts of high-resolution urban information on the urban thermal environment, *Journal of Geophysical Research: Atmospheres*, 128(6), e2022JD038048, 2023.

65. Chen, R., Hu, Q., Shen, W., Guo, J., **Yang, L.**, Yuan, Q., Lu, X., Wang, L.* , Identification of nitrate sources of groundwater and rivers in complex urban environments based on isotopic and hydro-chemical evidence, *Science of the Total Environment*, 162026, 2023.
66. Ma, X., Zheng, G.* , Xu, C., **Yang, L.**, Geng, Q., Li, J., Qiao, Y., Mapping fine-scale building heights in urban agglomeration with spaceborne lidar, *Remote Sensing of Environment*, 285, 113392, 2023.
67. Huang, S., Zhang, X.* , **Yang, L.**, Chen, N., Nam, W-H., and Niyogi, D., Urbanization-induced drought modification: Example over the Yangtze River Basin, China, *Urban Climate*, 44, 101231, 2022.
68. Guo, J., Zuo, P., **Yang, L.**, Wang, L.* , Yang, H.* , Determining nitrate sources in storm runoff in complex urban environments based on nitrogen and oxygen isotopes, *Science of the Total Environment*, 838, 155610, 2022.
69. Kreibich, H., Van Loon, A.F., ...(omitting 86 authors)..., **Yang, L.**, Zambrano-Bigiarini M., Bloschl, G., and Di Baldassarre, G., Unprecedented floods and droughts: challenges for risk management. *Nature*, 608, 80-86, 2022.
70. Zhang, W., Yang, J.* , **Yang, L.**, and Niyogi, D., Impacts of city shape on rainfall in inland and coastal environments. *Earth's Future*, 10, e2022EF002654, 2022.
71. Liu, M., Smith, J., **Yang, L.**, and Vecchi, G., Tropical cyclone flooding in the Carolinas. *Journal of Hydrometeorology*, 23(1), 53-70, 2021.
72. Li, K., Tian, F.* , Ali Khan, M., Xu, R., He, Z., **Yang, L.**, Lu, H., Ma, Y., A high-accuracy rainfall dataset by merging multi-satellites and dense gauges over southern Tibetan Plateau for 2014-2019 warm seasons, *Earth System Science Data*, 13, 5455-5467, 2021.
73. Wang, D., Wu, J., Huang, M., Li, L., Wang, D., Lin, T., Dong, L., Li, Q., **Yang, L.**, Zeng, Z.* , The critical effect of subgrid-scale scheme on simulating the climate impacts of deforestation, *Journal of Geophysical Research: Atmospheres*, 126 (17), e2021JD035133, 2021.
74. Wang, Q., Xu, Y.* , Cai, X., Tang, J., **Yang, L.**, Role of underlying surface, rainstorm and antecedent wetness condition on flood responses in small and medium sized watersheds in the Yangtze River Delta region, China, *Catena*, 206, 2021.
75. Li, Q., Yang, J.* , **Yang, L.**, Impact of urban roughness representation on regional hydrometeorology: an idealized study, *Journal of Geophysical Research: Atmospheres*, 126 (4), 2021.
76. Pan, Y., Guo, J., **Yang, L.**, Yuan, Q., Ren, Z., Wang, L.* , Numerical simulations of non-point source pollution in a small urban catchment: identification of pollution risk areas and effectiveness of source-control measures, *Water*, 13(1), 96, 2021.
77. Zeng, Z., Wang, D., **Yang, L.**, et al., Deforestation-induced warming over tropical mountain regions regulated by elevation, *Nature Geoscience*, 14, 23-29, 2021.
78. Guo, J., Zuo, P., **Yang, L.**, et al., Quantitative identification of non-point sources of nitrate in urban channels based on dense in-situ samplings and nitrate isotope composition, *Chemosphere*, 263, 2021.
79. Gao, J. and **Yang, L.**, A quantitative analysis on flood peak of Yalong river basin considering nonstationarity, *Water Power*, 46, 9, 2020. (in Chinese with English abstract)
80. Wang, J., Xu, Y., **Yang, L.**, Wang, Q., Yuan, J., Wang, Y., Data assimilation of high-resolution satellite rainfall product improves rainfall simulation associated with landfalling tropical cyclones in the Yangtze River Delta, *Remote Sensing*, 12(2), 276, 2020.

81. Zhao, J., **Yang, L.**, Li, L., Wang, L., Hu, Q., Wang, Y., Analysis of the lake-effect on precipitation in the Taihu Lake basin based on the GWR merged precipitation, *Water*, 12(1), 180, 2020.
82. Liu, M., **Yang, L.**, Smith, J., Vecchi, G., Response of extreme rainfall for landfalling tropical cyclones undergoing extratropical transition to projected climate change: Hurricane Irene (2011), *Earth's Future*, 8 (3), e2019EF001360, 2020.
83. Guo, J., Wang, L., **Yang, L.**, et al., Spatial-temporal characteristics of nitrogen degradation in typical rivers of Taihu Lake Basin, China, *Science of the Total Environment*, 713, 136456, 2020.
84. Smith, J.A., Baeck, M.L., **Yang, L.**, Signell, J., Morin, E., Goodrich, D., The paroxysmal precipitation of the desert: flash floods in the southwestern US, *Water Resources Research*, 55 (12), 10218-10247, 2019.
85. Zeng, Z., Ziegler, A., Searchinger, T., **Yang, L.**, et al., A reversal in global terrestrial stilling and its implications for wind energy production, *Nature Climate Change*, 9, 979-985, 2019.
86. Zhang, X., Chen, N., Sheng, H., Ip, C., **Yang, L.**, et al., Urban drought challenge to 2030 sustainable development goals, *Science of the Total Environment*, 693, 133536, 2019.
87. Zhou, Z., Smith, J.A., Wright, D., Baeck, M. L., **Yang, L.**, and Liu, S., Storm catalog-based analysis of rainfall heterogeneity and frequency in a complex physiographic setting, *Water Resources Research*, 55 (3), 1871-1889, 2019.
88. Zeng, Z., Piao, S., Li, L., Ciais, P., Li, Y., Cai, X., **Yang, L.**, Liu, M., and Wood, E., Global terrestrial stilling: does Earth's greening play a role? *Environmental Research Letters*, 13, 124013, 2018.
89. Smith, J.A., Baeck, M.L., Cox, A., **Yang, L.**, and Bates, P., Strange floods: the upper tail of flood peaks in the US, *Water Resources Research*, 54, 6510-6542, 2018.
90. Tian, F., Hou, S., **Yang, L.**, Hu, H., and Hou, A., How does the evaluation of GPM IMERG rainfall product depend on gauge density and rainfall intensity? *Journal of Hydrometeorology*, 19, 339-349, 2018.
91. Veldhuis, M., Zhou, Z., **Yang, L.**, Liu, S., and Smith, J.A., The role of storm scale, position and movement in controlling urban flood response, *Hydrology and Earth System Sciences*, 22, 417-436, 2018.
92. Zhou, Z., Smith, J.A., **Yang, L.**, Baeck, M.L., Chaney, M., Veldhuis, M., Deng, H., and Liu, S., The complexities of urban flood response: flood frequency analyses for the Charlotte Metropolitan Region, *Water Resources Research*, 53 (8): 7401-7425, 2017.
93. Xu, R., Tian, F., **Yang, L.**, Hu, H., Hou, A., and Lu, H., Ground validation of GPM IMERG and TRMM 3B42V7 rainfall products over southern Tibet Plateau based on a high-density rain gauge network, *Journal of Geophysical Research: Atmospheres*, 122 (2): 910-924, 2017. (**ESI Highly Cited Paper**)
94. He, Z., **Yang, L.**, Tian, F., Ni, G., Hou, A., and Lu, H., Intercomparisons of rainfall estimates from the TRMM and GPM multi-satellite products over the Upper-Mekong River basin, *Journal of Hydrometeorology*, 18: 413-430, 2017.
95. Li, D., Sun, T., Liu, M., **Yang, L.**, Wang, L., and Gao, Z., Contrasting responses of urban and rural surface energy budgets to heat waves explain synergies between urban heat islands and heat waves, *Environmental Research Letters*, 10(5), 2015.
96. Sun, Y, Tian, F., **Yang, L.**, and Hu, H., Exploring the spatial variability of contributions from climate variation and change in catchment properties to streamflow decrease in a mesoscale basin by three different methods, *Journal of Hydrology*, 508: 170-180, 2014.

97. Wang, B., Tian, F., and **Yang, L.**, Performance of spatio-temporal scale in the streamflow trend: Evidence in Jialing river basin, China, *Water Resource and Environmental Protection*, 709-712, 2011.

Invited Presentations (Selected)

- **Yang, L.**, Urban Hydrology and Hydrometeorology: The Characteristics of Flood-Producing Storms and How Cities Modify Them, Department of Civil and Environmental Engineering, University of Hong Kong, July 21, 2022.
- **Yang, L.**, Tropical cyclones and riverine flooding over China, Newton Advanced Fellowship Workshop "Flood Risk in the Anthropocene", April 7, 2021.
- **Yang, L.**, Urban Hydrology and Hydrometeorology: The Characteristics of Flood-Producing Storms and How Cities Modify Them, Department of Earth and Environmental Sciences, Nanjing University of Information Science and Technology, May 4, 2019.
- **Yang, L.**, Urban Hydrology and Hydrometeorology: The Characteristics of Flood-Producing Storms and How Cities Modify Them, Department of Earth and Environmental Sciences, Brooklyn College of the City University of New York, March 27, 2017.
- **Yang, L.**, Flash Floods in a Small Urban watershed: Storm Properties and Flood Response, School of Geographic and Oceanographic Sciences, Nanjing University, Nanjing, China, April 12, 2016.
- **Yang, L.**, Urban Flooding: Facts, Mechanisms and Adaptations, School of Geographic Sciences, East China Normal University, Shanghai, China, April 8, 2016.

Conference Presentations (Selected)

- **Yang, L.**, Riverine flooding and landfalling tropical cyclones, Water Forum of China, Nanjing, China, November 2020. (Talk)
- **Yang, L.**, Extreme rainfall and inland flooding associated with landfalling tropical cyclones over China, American Geophysical Union Fall Meeting, San Francisco, CA, December 2019. (Poster)
- **Yang, L.**, Urban Hydrology and Hydrometeorology: The characteristics of flood-producing storms and how cities modify them, Water Forum of China, Beijing, China, October 2019. (Invited Talk)
- **Yang, L.**, On the flood peak distributions over China, Asia Oceania Geosciences Society. Singapore, August 2019. (Talk)
- **Yang, L.**, Smith, J.A., and D. Niyogi, Extreme rainfall in urban environments: characteristics of flood-producing storms and how cities modify them, 10th International Conference on Urban Climate and 13th AMS Symposium on Urban Environment. New York City, NY., August 2018. (Talk)
- **Yang, L.**, Smith, J.A., Baeck, M. L., M. Veldhuis and Z. Zhou, Structure and evolution of flood-producing storms in small urban watersheds: implications for urban flood modeling, European Geosciences Union General Assembly, Vienna, Austria, April 2018. (Invited Talk)
- Smith, J, A. Cox, Baeck, M. L., **L. Yang*** and P. Bates, Strange floods: the upper tail of flood peaks in the US and UK, European Geosciences Union General Assembly, Vienna, Austria, April 2018. (Talk, *presenter)
- **Yang, L.** and Smith, J.A., Sensitivity of extreme rainfall to atmospheric moisture content in the arid/Semi-arid southwestern US: implications for probable maximum precipitation estimates, American Meteorological Society 98th Annual Meeting, Austin, Texas, January 2018. (Poster)
- **Yang, L.**, Smith, J.A., M.F. Liu, Baeck, M. L., C. Molly and Y. Su, Extreme Rainfall from Hurricane Harvey (2017): Intercomparisons of WRF Simulations and Polarimetric Radar Fields, American Geophysical Union Fall Meeting, New Orleans, LA, December 2017. (Poster & Talk)

- Smith, J, A. Cox, Baeck, M. L., **L. Yang*** and P. Bates, Strange Floods: The Upper Tail of Flood Peaks in the US, American Geophysical Union Fall Meeting, New Orleans, LA, December 2017. (Talk, *presenter)
- Liu, M., **L. Yang**, Smith, J.A. and G. Vecchi, Attribution of Extreme Rainfall from Landfalling Tropical Cyclones to Climate Change for the Eastern United States, American Geophysical Union Fall Meeting, New Orleans, LA, December 2017. (Talk)
- Zhou, Z., Smith, J.A., **L. Yang**, Baeck, M. L., D. Wright and S. Liu, Regional frequency analysis of extreme rainfall for the Baltimore Metropolitan region based on stochastic storm transposition, American Geophysical Union Fall Meeting, New Orleans, LA, December 2017. (poster)
- **Yang, L.**, Smith, J.A., Baeck, M. L. and D. Niyogi, Flash Flooding in Arid/Semi-arid Urban Environments: Storm Structure, Evolution and Storm Environment, American Meteorological Society 97th Annual Meeting, Seattle, Washington, January 2017. (Poster)
- **Yang, L.**, Smith, J.A., Baeck, M. L., J. Signell and E. Morin, The Hydrometeorology and Hydrology of Extreme Floods in Urban Watersheds of the Southwestern U.S., American Geophysical Union Fall Meeting, San Francisco, CA, December 2016. (Poster)
- **Yang, L.**, M. Liu, Smith, J.A., F. Tian, The August 1975 Flood over Central China, European Geosciences Union General Assembly, Vienna, Austria, April 2016. (Poster)
- **Yang, L.** and Smith, J.A., Rainfall Micro-structure and Its Linkage to Structure and Evolution of Flash-Flood Producing Storms, American Meteorological Society 96th Annual Meeting, New Orleans, Louisiana, January 2016. (Talk)
- **Yang, L.** and D. Niyogi, Urbanization Impacts on Climatology of Planetary Boundary Layer Heights over the Continental United States, The 9th International Conference on Urban Climate, Toulouse, France, July 2015. (Poster)
- **Yang, L.** and D. Niyogi, Contribution of Urbanization and Future Climate Change to Urban Heat Island: Case Study of a Severe Heat Wave over Beijing, China, The 9th International Conference on Urban Climate, Toulouse, France, July 2015. (Poster)
- **Yang, L.**, Smith, J.A., Baeck, M. L. and D. Niyogi, The Hydroclimatology of Flash Flooding in the Urban Corridor of the Northeastern US, European Geosciences Union General Assembly, Vienna, Austria, April 2015. (Talk)
- **Yang, L.**, F. Tian and D. Niyogi, Hydrologic responses to urbanization patterns, American Geophysical Union Fall Meeting, San Francisco, CA, December 2014. (Poster)
- **Yang, L.**, Smith, J.A., Baeck, M. L., E. Bou-Zeid, S. Jessup, F. Tian and H. Hu, Urban Modification of Heavy Rainfall: a Case Study over Milwaukee-Lake Michigan Region, European Geosciences Union General Assembly, Vienna, Austria, April 2013. (Talk)
- **Yang, L.**, Modification of summer rainfall over Beijing metropolitan region, 350th Doctoral consortium, Tsinghua University, Beijing, China, April 2013. (Talk)
- **Yang, L.**, F. Tian, Smith, J.A. and H. Hu, Urban Signatures in the Spatial Clustering of Warm-season Heavy Rainfall Events over the Beijing Metropolitan Region, American Geophysical Union Fall Meeting, Francisco, CA, December 2013. (Poster)
- Wright, D.B., Smith, J.A., Baeck, M. L., J. Yeung, **L. Yang**, Rainfall modification in urban areas: no easy answers, Symposium on Fluid Dynamics and the Global Environment, Princeton University, Princeton, NJ, May 22, 2012.
- **Yang, L.**, F. Tian and H. Hu, Proper Forecast Window in Ensemble Streamflow Prediction, American Geophysical Union Fall Meeting, San Francisco, CA, December 2011. (Poster)

Honors and Awards

- Excellence in Research, Frontiers Science Center of Ministry of Education, China, 2023/2024/2025

- Mentor award for excellent master's thesis, Jiangsu Province, 2024
- Mentor award for excellent master's thesis, Nanjing University, 2023
- Outstanding reviewer for *Advances in Water Science*, 2023
- World's Top 2% Scientists List (by Stanford University), 2023
- Mentor award for excellent bachelor's thesis, Jiangsu Province, 2022
- Mentor award for excellent bachelor's thesis, Nanjing University, 2021
- Young scholar award of science and technology, Jiangsu Oceanology and Limnology Society, 2022
- Outstanding Doctoral Thesis Award, Tsinghua University, Beijing, China, 2014
- National Scholarship for Graduate Students, Tsinghua University, Beijing, China, 2013
- Guanghua Scholarship, Tsinghua University, Beijing, China, 2012
- National Award for Best Undergraduate Student in Engineering, China, 2009
- National Award for Students in Hydraulic Engineering, Nanjing, China, 2009
- Principal Scholarship, Hohai University, Nanjing, China, 2008; 2009; 2010

Academic Services

- Vice president/Secretary-General, Commission on Water Resources Systems (CWRS) of Chinese National Commission for the International Association of Hydrological Sciences (CNC-IAHS)
- Member, Chinese National Commission for the International Association of Hydrological Sciences (CNC-IAHS)
- Vice president, Commission on Water Resources Systems (CWRS) of CNC-IAHS
- Board member, Hydrological Geography Professional Committee of China
- Board member, Jiangsu Society of Oceanology and Limnology
- Board member, Jiangsu Society of Geography
- Associate Editor for *Hydrological Sciences Journal* (IF=3.7, 2024-)
- Editorial board member, *Water Resources Protection* (EI indexed, 2022-)
- Peer Reviewer for: *Nature*, *Nature Geoscience*, *Nature Communications*, *Earth-Science Reviews*, *Water Resources Research*, *Journal of Geophysical Research-atmosphere*, *Journal of Hydrometeorology*, *Journal of Hydrology*, *Hydrology and Earth System Sciences*, *International Journal of Climatology*, *Frontiers of Earth Science*, *Urban Climate*, *Journal of Atmospheric and Oceanic Technology*, *Advances in Atmospheric Sciences*, *Journal of the American Water Resources Association*, *Atmospheric Research*, *Environmental Research Letters*, and other 20 journals.
- Peer Review for Book chapter in: *Hydrologic Remote Sensing: Capacity Building for Sustainability and Resilience* published by the International Water Association.

Professional Membership

- American Geophysical Union
- American Meteorological Society
- European Geosciences Union
- International Association of Hydraulic Engineering Research

Media Report

- News, Phys.org, Flood models need to include cities' impact on rainfall, according to study, November 3, 2015, <http://phys.org/news/2015-11-cities-impact-rainfall.html>
- News, Phys.org, Designing cities to combat climate change, May 24, 2016, <http://phys.org/news/2016-05-cities-combat-climate.html>
- News, ScienceDaily, Cities boosted rain, sent storms to the suburbs during Europes deadly summer floods, January 7, 2022, <https://www.sciencedaily.com/releases/2022/01/220107084317.htm>
- News, Scientific American, Unprecedented, Climate-Driven Disasters Are Stymieing Preparation Efforts, August 4, 2022, <https://www.scientificamerican.com/article/unprecedented-climate-driven-disasters-are-stymieing-preparation-efforts/>