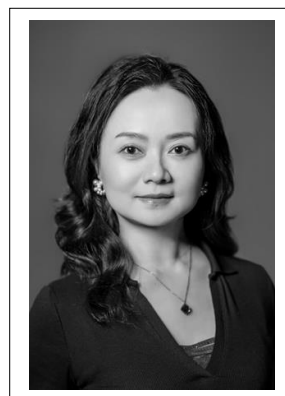


Curriculum Vitae for Yali Luo

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Education

- Ph.D. University of Utah (U.S.), Meteorology, 2003
- M.S. Chinese Academy of Meteorological Sciences, Meteorology, 1996
- B.S. Nanjing Institute of Meteorology (China), Meteorology, 1993

Professional Experience

- 04/2023-Date Professor, Nanjing University of Information Science & Technology (NUIST)
- 07/2007-03/2023 Senior Scientist/Professor, State Key Laboratory of Severe Weather, Chinese Academy of Meteorological Sciences
- 11/2010-05/2011 Visiting Scientist, Wyoming University, USA
- 11/2006-06/2007 Research Scientist II, U.S. NASA Langley Research Center
- 02/2004-10/2006 Research Scientist I, U.S. NASA Langley Research Center
- 07/2003-01/2004 Post-doctoral Research Associate, University of Utah, USA
- 06/1996-07/1999 Engineer, National Meteorological Center, China Meteorology Administration

Areas of Specialization and Research Interests

- Understand the science and prediction of weather/climate extremes such as heavy rainfall and extreme hot events, using high-resolution, integrated observational datasets combined with numerical modeling.
- Understand the distribution and vertical structure of clouds and precipitation, using integrated observations from field programs and new observational capabilities from satellites such as Fengyun, Himawari-8, *CloudSat*, Tropical Rainfall Measuring Mission, and Global Precipitation Mission.
- Evaluate and improve physics parameterization schemes, i.e., cloud microphysics and convection schemes, in atmospheric models such as the NCEP GFS, UCLA CRM, and the WRF model.

Honors

- Zou-Jing-Meng Award to Talents in Meteorological Science & Technology, Chinese Meteorological Society, 2016
- Award to Leading Talents in Meteorological Science & Technology, China Meteorological Administration, 2013-16/2017-19/2020-23
- Group Achievement Award to CRYSTAL-FACE Science Team, NASA, 2003

Selected Memberships and Professional Services

2021-Date	Assistant Editor, Geoscience Letters, Asia Oceania Geosciences Society
01/2023-Date	Member, Science Team of WMO/WCRP Global Precipitation Experiment
2013-2021	Chief Scientist, The Southern China Monsoon Rainfall Experiment (SCMREX) Research & Development Project (RDP), World Meteorological Organization/World Weather Research Programme (WMO/WWRP)
10/2015-12/2019	Co-Chair, Expert Team on Severe Monsoon Weather, World Meteorological Organization (WMO)
11/2014-10/2015	Member, Expert Team on Severe Monsoon Weather, World Meteorological Organization (WMO)
2009-Date	Member, Chinese Meteorological Society (CMS)
2010-2012	Lead author, IPCC Special Report on <i>Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation</i>
2013-2015	Coordinating lead author, China National Assessment Report on <i>Risk Management and Adaptation of Climate Extremes and Disasters</i>
2003-Date	Referee of scientific journals (such as <i>the Journal of the Atmospheric Sciences, Journal of Climate, Journal of Applied Meteorology and Climatology, Monthly Weather Review, Journal of Geophysical Research, Geophysical Research Letter, Journal of Advances in Modeling Earth Systems, Climate Dynamics, International Journal of Remote Sensing, Remote Sensing of Environment, International Journal of Climatology, Science in China, Advances in Atmospheric Sciences, Journal of Meteorological Research, Acta Meteorologica Sinica, Theoretical and Applied Climatology, Atmospheric Science Letters, Meteorology and Atmospheric Physics, Journal of Meteorological Society of Japan</i>)
2008-Date	Convener and chair/member of IOC/LOC of international conferences/workshops (such as many <i>Annual Meetings of Asia Oceania Geosciences Society, the 6th and 7th WMO International Workshop on Monsoons, the 3rd and 4th WMO Workshop on Monsoon Heavy Rainfall, the 12th and 14th Conference on Mesoscale Convective System and High Impact Weather in East</i>

Refereed Publications

(* indicates corresponding author)

1. Yu, S., Y. Luo*, C. Wu, and W. Xu, 2023: Subseasonal variations of convective and microphysical characteristics of extreme precipitation over the Pearl River Delta at monsoon coast. *J. Geophys. Res. Atmos.*, 128, e2022JD037804. <https://doi.org/10.1029/2022JD037804>.
2. Gao, Y., M. Li*, Y. Luo*, C. Wu, 2023: How do the convective and microphysical characteristics of extreme precipitation over the Pearl River Delta at monsoon coast vary with increasing rainfall extremity? *Geophysical Research Letters*, Under review.
3. Y. Luo, Y. Gao, Y. Chen*, 2023: New insights into the convective and microphysical characteristics of heavy rainfall in monsoon coastal areas (South China). *MAUSAM*, 74, 2 (April, 2023), 361-374, DOI : <https://doi.org/10.54302/mausam.v74i2.5981>
4. Jiang, X., D.-L. Zhang*, Y. Luo, 2023: Influences of urbanization on an afternoon heavy rainfall event over the Yangtze River Delta region. *Mon. Wea. Rev.*, 151, 815-832, DOI: 10.1175/MWR-D-22-0165.1
5. Li, H.*, D. Moisseev, Y. Luo, L. Liu, Z. Ruan, L. Cui, and X. Bao, 2023: Assessing specific differential phase (KDP)-based quantitative precipitation estimation for the record-breaking rainfall over Zhengzhou city on 20 July 2021. *Hydrol. Earth Syst. Sci.*, 27, 1033–1046, 2023, <https://doi.org/10.5194/hess-27-1033-2023>
6. Liu, L., B. Yang, X. Jiang, and Y. Luo*, 2022: Changes in tropical cyclone-induced extreme hourly precipitation over China during 1975–2018. *J. Climate*, DOI: 10.1175/JCLI-D-21-0736.1, 7339–7352
7. Zhang, Q., Y. Luo*, Y. Tang, X. Xu, S. Yu., C. Wu, 2022: Cause–effect relationship between meso- γ -scale rotation and extreme short-term precipitation: observational analyses at minute and sub-kilometer scales. *J. Meteorological Research*, **36**, 539-552.
8. Luo, Y.*, J. Zhang, M. Yu, X. Liang, R. Xia, Y. Gao, X. Gao, and J. Yin, 2022: On the influences of urbanization on the extreme rainfall over Zhengzhou on 20 July 2021: a Convection-permitting ensemble modeling study. *Adv. Atmos. Sci.*, <https://doi.org/10.1007/s00376-022-2048-8>.
9. Pu, Y.; Hu, S.*; Luo, Y.; Liu, X.; Hu, L.; Ye, L.; Li, H.; Xia, F.; Gao, L, 2022: Multiscale Perspectives on an Extreme Warm-Sector Rainfall Event over Coastal South China. *Remote Sensing*, **14**, 3110. <https://doi.org/10.3390/rs14133110>
10. Sun, X., X. Gao*, Y. Luo*, W.-K. Wong, and H. Xu, 2022: A comparative analysis of characteristics and synoptic backgrounds of extreme heat events over two urban agglomerations in southeast China. *Land*, **11**, 2235. <https://doi.org/10.3390/land11122235>
11. Yu, S., Y. Luo*, C. Wu*, D. Zheng, W. Xu, 2022: Convective and microphysical characteristics of extreme precipitation revealed by multisource observations over the Pearl

- River Delta at monsoon coast. *Geophysical Research Letters*, 49, e2021GL097043. <https://doi.org/10.1029/2021GL097043>.
12. Xu, W.*, H. Chen, H. Wei, Y. Luo, T. Zhao, 2022: Extreme precipitation produced by relatively weak convective systems in the tropics and subtropics. *Geophysical Research Letters*, 49, 2022GL098048
 13. Gao, X., Y. Luo*, Y. Lin, X. Bao, 2022: A Source of WRF Simulation Error for the Early-summer Heavy Rainfall over South China Coast: Land-sea Thermal Contrast. *J. Geophys. Res. Atmos.*, 127, e2021JD035179.
 14. Huang, L., Luo, Y.*, & Bai, L.*, 2022: An evaluation of convection-permitting ensemble simulations of coastal nocturnal rainfall over South China during the early-summer rainy season. *J. Geophys. Res. Atmos.*, 127, e2021JD035656. <https://doi.org/10.1029/2021JD035656>
 15. Fu, S.M.*, J.P. Zhang, Y.L. Luo*, W.T. Yang and J.H. Sun, 2022. Energy paths that sustain the warm-sector torrential rainfall over South China and their contrasts to the frontal rainfall: A case study. *Adv. Atmos. Sci.*, DOI: 10.1007/s00376-021-1336-z. (online Dec. 2021)
 16. Li, M., Y. Luo*, M. Min, 2022: Characteristics of Pre-summer Daytime Cloud Regimes over Coastal South China from the Himawari-8 Satellite. *Adv. Atmos. Sci.*, doi: 10.1007/s00376-021-1148-1. (accepted 30 August 2021) .
 17. Bao., X., and Y. Luo*, X. Gao, 2021: The Synoptic Impacts on the Convection Initiation of a Warm-sector Heavy Rainfall Event over Coastal South China Prior to the Monsoon Onset: A Numerical Modeling Study. *J. Geophys. Res. Atmos.*, 126, e2020JD034335. <https://doi.org/10.1029/2020JD034335>.
 18. Chen, Y., Y. Luo*, B. Liu*, 2021: General features and synoptic-scale environments of mesoscale convective systems over South China during the 2013–2017 pre-summer rainy seasons. *Atmos. Res.*, 266 (2022) 105954.
 19. Gao, H., Yali Luo*, Da-Lin Zhang, Yang Chen, Yongqing Wang, Xinyong Shen, 2021: A Statistical Analysis of Extreme Hot Characteristics and their Relationships with Urbanization in Southern China during 1971-2020. *J. Appl. Meteor. Climat.*, 60, 1301-1317, DOI: 10.1175/JAMC-D-21-0012.1.
 20. Guo, J., Y. Luo*, J. Yang*, K. Furtado, H. Lei, 2021: Effect of Anthropogenic and Sea Salt Aerosols on a Southern China Heavy Rainfall Event. *Atmos. Res.*, 265 (2022) 105923.
 21. Li W, Bi X*, Sheng L, Luo Y and Sun J (2021) Modulations of Synoptic Weather Patterns on Warm-Sector Heavy Rainfall in South China: Insights From High-Density Observations With Principal Component Analysis. *Front. Earth Sci.* 9:678230. doi: 10.3389/feart.2021.678230
 22. Li, M., Yali Luo*, D.-L. Zhang, M. Chen, C. Wu, J. Yin and R. Ma, 2021: Analysis of a Record-breaking Rainfall Event Associated with a Monsoon Coastal Megacity of South China using Multi-source Data. *IEEE Trans. Geosci. Remote Sens.*, 59, 6404-6414, DOI: 10.1109/TGRS.2020.3029831
 23. Sun, X., Yali Luo*, Xiaoyu Gao, Mengwen Wu, Mingxin Li, Ling Huang, Da-Lin Zhang, Haiming Xu, 2021: On the Localized Extreme Rainfall over the Great Bay Area in South China with Complex Topography and Strong UHI Effects. *Mon. Wea. Rev.*, 149, 2777-2801, DOI:10.1175.MWR-D-21-0004.1.

24. Chen, Y.* , X. Wang, L. Huang, and Y. Luo, 2021: Spatial and Temporal Characteristics of Abrupt Heavy Rainfall Events over Southwest China during 1981-2017. *Int. J. Climatology*, **41**, 3286-3299.
25. Xia, R., Y. Luo*, D.-L. Zhang, M. Li, X. Bao, J. Sun, 2021: On the Diurnal Cycle of Heavy Rainfall over the Sichuan Basin during 10–18 August 2020. *Adv. Atmos. Sci.*, **38**, 2183-2200.
26. Yun, Y.* , C. Liu, Y. Luo, W. Gao, 2021: Warm-season Mesoscale Convective Systems over Eastern China: Convection-permitting Climate Model Simulation and Observation. *Climate Dynamics*, **57**, 3599-3617.
27. Zhao, X., Y. Lin*, Y. Luo, and Coauthors, 2021: A Double-Moment SBU-YLIN Cloud Microphysics Scheme and Its Impact on a Squall Line Simulation. *Journal of Advances in Modeling Earth Systems*, **13**, e2021MS002545. <https://doi.org/10.1029/2021MS002545>
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29. Luo, Y.*, J. Sun, Y. Li, and Coauthors, 2020: Science and Prediction of Heavy Rainfall over China: Research Progress since the Reform and Opening-Up of New China. *J. Meteor. Res.*, **34**(3): 427-459. Doi:10.1007/s13351-020-0006-x
30. Jiang, X., Y. Luo*, D.-L. Zhang, M. Wu, 2020: Urbanization Enhanced Summertime Extreme Hourly Precipitation over the Yangtze River Delta. *J. Climate*, **33**, 5809-5826.
31. Furtado, K., P. Field, Y. Luo*, T. Zhou, A. Hill, 2020: The Effects of Cloud-Aerosol Interaction Complexity on Simulations of Presummer Rainfall over Southern China. *Atmos. Chem. Phys.*, **20**, 5093–5110. <https://doi.org/10.5194/acp-20-5093-2020>.
32. Luo, Y.*, R. Xia, J. C. L. Chan, 2020: Characteristics, Physical Mechanisms, and Prediction of Pre-summer Rainfall over South China: Research Progress during 2008-2019. *J. Meteor. Soc. Japan*, **98**(1), 19-42, doi:10.2151/jmsj.2020-002.
33. Luo, Y.*, X. Bao , H. Wang, R. Xia, and coauthors, 2020: The Southern China Monsoon Rainfall Experiment (SCMREX). Invited review chapter in *The Global Monsoon System, IV, a WMO Quadrennial Review*. Editors: C.P. Chang, K.-J. Ha, R. H. Johnson, D. Kim, G. N. C. Lau, B. Wang. Vol. 11, World Scientific Series on Asia-Pacific Weather and Climate, 389-398
34. Tsuboki, K.* , Y. Luo, 2020: High-resolution simulations of heavy rainfalls in association with monsoon systems and typhoons using cloud-resolving models. Invited review chapter in *The Global Monsoon System, IV, a WMO Quadrennial Review*. Editors: C.P. Chang, K.-J. Ha, R. H. Johnson, D. Kim, G. N. C. Lau, B. Wang. Vol. 11, World Scientific Series on Asia-Pacific Weather and Climate, 113-132.
35. Liu, X., Y. Luo*, L. Huang, D.-L. Zhang, & Z. Guan, 2020: Roles of double low-level jets in the generation of coexisting inland and coastal heavy rainfall over South China during the presummer rainy season. *Journal of Geophysical Research: Atmospheres*, **125**, e2020JD032890. <https://doi.org/10.1029/2020JD032890>
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37. Yin, J., D.-L. Zhang*, Y. Luo, and R. Ma, 2020: On the Extreme Rainfall Event of 7 May 2017 over the Coastal City of Guangzhou. Part I: Impacts of Urbanization and Orography. *Mon. Wea. Rev.*, **148**, 955-979.

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39. Luo, Y.*, L. Li, R.H. Johnson, C.-P. Chang, L.S. Chen, W.-K. Wong, J. Chen, K. Furtado, J.L. McBride, A. Tyagi, N. Lomarda, T. Lefort, E.O. Cayan, 2019: Science and Prediction of Monsoon Heavy Rainfall. *Science Bulletin*, **64**, 1557-1561, doi: 10.1016/j.scib.2019.09.005.
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41. Huang, L., Y. Luo*, and D.-L. Zhang, 2018: The Relationship between Anomalous Presummer Extreme Rainfall over the South China and Synoptic Disturbances. *J. Geophys. Res. Atmos.*, **123**, 3395-3413.
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43. Liu, X., Y. Luo*, Z. Guan, and D.-L. Zhang, 2018: An Extreme Rainfall Event in Coastal South China during SCMREX-2014: Formation and Roles of Rainband and Echo Trainings. *J. Geophys. Res. Atmos.*, **123**, 9256-9278.
44. Chen, Y. and Y. Luo*, 2018: Analysis of Paths and Sources of Moisture for the South China Rainfall during the Presummer Rainy Season of 1979-2014. *J. Meteor. Res.*, **32**, 744-757.
45. Ma, R. Y., Y. Luo*, and H. Wang, 2018: Classification and Diurnal Variations of Precipitation Echoes Observed by a C-band Vertically-pointing Radar in Central Tibetan Plateau during TIPEX-III 2014-IOP. *J. Meteor. Res.*, **32**, 985–1001, doi: 10.1007/s13351-018-8084-8.
46. Chang, C.-P., R. H. Johnson, K.-J. Ha, D. Kim, G. N.-C. Lau, B. Wang, M. M. Bell, and Y. Luo, 2018: The Multiscale Global Monsoon System: Research and Prediction Challenges in Weather and Climate. *Bull. Amer. Meteor. Soc.*, **99**, 149-153.
47. Furtado, K.*, P. Field, Y. Luo, X. Liu, Z. Guo, T. Zhou, B. Shipway, A. Hill, and J. Wilkinson, 2018: Cloud-microphysical Factors Affecting Simulations of Deep Convection during the Presummer Rainy-season in Southern China. *J. Geophys. Res. Atmos.*, **123**, 10477-10505, <https://doi.org/10.1029/2017JD028192>.
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49. Luo, Y.*, R. Zhang, Q. Wan, and coauthors, 2017: The Southern China Monsoon Rainfall Experiment (SCMREX). *Bull. Amer. Meteor. Soc.*, **98**, 999-1013, DOI: <http://dx.doi.org/10.1175/BAMS-D-15-00235.1>.
50. Bao, X., Y. Luo*, J. Sun, and Z. Meng, 2017: Assimilating Doppler Radar Observations with an Ensemble Kalman Filter for Convection-permitting Prediction of Convective Development in a Heavy Rainfall Event during the Pre-summer Rainy Season of South China. *Sci. China Earth Sciences*, **60**, 1866-1885, doi: 10.1007/s11430-017-9076-9.
51. Luo, Y.*, 2017: Advances in Understanding the Early-Summer Heavy Rainfall over South China. Invited review chapter in *The Global Monsoon System, III, a WMO Quadrennial Review*. Editors: C.P. Chang, N. G. Lau, R. H. Johnson, B. Wang and M. Wheeler. Vol. 9, World Scientific Series on Asia-Pacific Weather and Climate, 215-226.

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53. Wu, M., C.C. Wu, T.H. Yen, Y. Luo*, 2017: Synoptic Analysis of Extreme Hourly Precipitation in Taiwan during 2003-12. *Mon. Wea. Rev.*, **145**, 5123-5140.
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55. Luo, Y.*, W. Qian, Y. Gong, H. Wang, and D.L. Zhang, 2016: Ground-based Radar Reflectivity Mosaic of Mei-yu Precipitation Systems over the Yangtze River–Huaihe River Basins. *Adv. Atmos. Res.*, **33**, 1285-1296, doi:10.1007/s00376-016-6022-1.
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