CURRICULUM VITAE

FEI CHEN

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EDUCATION

B.S. Nanjing National Institute of Meteorology, Nanjing, China, 1984
M.S. Blaise Pascal University, Clermont-Ferrand, France, 1986,
Ph.D. Blaise Pascal University, Clermont-Ferrand, France, 1990

APPOINTMENTS

Professor and Associate Head, Division of Environment and Sustainability, The Hong Kong University of Science and Technology**,** Clear Water Bay, Kowloon, Hong Kong, China, 2024-present.

Deputy Director, Hydrometeorology Applications Program, Research Applicatio Laboratory (RAL), National Center for Atmospheric Research (NCAR), Boulder, CO, 2015-2023

Senior Scientist (Scientist IV), RAL, NCAR, 2010-2023; **Scientist III,** 2004-2010: **Scientist II**, 2000-2004; **Scientist I**, 1997-2000

Visiting Professor, University of Tsukuba, Tsukuba, Japan, 2019

Visiting Professor, Chinese Academy of Meteorological Sciences, China Meteorological Administration, 2015-2019

Visiting Professor, Chinese Academy of Meteorological Sciences, Beijing, China, 2003-2007

Visiting Scientist, Environmental Modeling Center, National Centers for Environmental Prediction, National Oceanic and Atmospheric Administration (NOAA), Washington DC, 1993-1997

Postdoctoral Research Associate, Department of Meteorology and Physical Oceanography, Rutgers University, New Brunswick, NJ, 1991-1993

Research Associate, Laboratory of Physical Meteorology, Blaise Pascal University, Clermont-Ferrand, France, 1990-1991

HONORS AND AWARDS

Outstanding Scientific and Technical Advancement Award, NCAR, 2001

Fellow, American Meteorological Society, 2013
Honorary Professorship, Chinese Academy of Meteorological Sciences, China Meteorological Administration, 2014
Board on the Urban Environment Award, American Meteorological Society, 2015
Outstanding Publication Award, NCAR**,** 2015
Scientific and Technical Achievement Award, NCAR/RAL, 2015
The Helmut E. Landsberg Award, American Meteorological Society, 2018
Outstanding Publication Award, NCAR/RAL, 2021
Mentoring Award, NCAR/RAL, 2023
Fellow, American Geophysical Union, 2024

Selected COMMITTEE WORK

Co Editor-in Chief of the journal *Urban Climate*, 2024 - present

Co-Char: WMO World Weather Research Program (WWRP) urban prediction project, 2024 - 2030

Co-Chair: Urban Meteorology Committee, Chinese Meteorology Society, 2024-2029

Member, Scientific Committee of the Institute of Urban Meteorology (Beijing), 2023 – present

Member, Noah-MP strategic planning committee, 2023 – present

Member, Scientific Steering Group, My Climate Risk, World Climate Research Programme (WCRP), 2022-present

Chair, Award Nomination Committee, American Meteorological Society (AMS), 2019-2021

Member, Award Nomination Committee, American Meteorological Society (AMS), 2018-2021

Member, Advisory Committee of the 2022 Winter Olympics Weather Support, China Meteorological Administration, Beijing, China, 2017-2020

Member, Organizing Committee, 10th International Conference on Urban Climate (ICUC9), 6-10 August, New York, NY, USA, 2018

Member, International Advisory Committee member, School of Geographic Sciences, East China Normal University, Shanghai, China, 2015-2019

Elected Board Member, the International Association for Urban Climate (IAUC) Board, 2015-2018

Member, Organizing Committee Member, 9th International Conference on Urban Climate (ICUC9), July 20-24, 2015, Toulouse, France.

Co-Chair: AMS 11th Symposium on the Urban Environment, February 2-6, 2014, Atlanta, GA.

Member, the Global Land/Atmosphere System Study (GLASS) Panel, Global Energy and Water Cycle Experiment (GEWEX), 2012-2017

Chair, American Meteorological Society (AMS) Board on the Urban Environment, 2011-2013

Member, American Meteorological Society (AMS) Board on the Urban Environment, 2010-2011

Co-Chair: AMS Ninth Symposium on the Urban Environment,August 2010, Keystone, Colorado.

Scientific Advisor, Institute of Urban Meteorology, Chinese Meteorological Agency, Beijing, China, 2009-2019

Rapporteur and Committee member, "Habilitation à Diriger des Recherches", Paul Sabatier University, Toulouse, France, 2009

Member, Weather Research and Forecasting (WRF) Release Committee member, 2008-2011

Member, NASA Soil Moisture Active Passive (SMAP) Applications Working Group, 2008-2013

Member, External Advisory Committee of the U.S. Environmental Protection Agency (EPA) Community Modeling and Analysis System (CMAS), 2007-2010

Co-Chair, WRF Model Working Group 14 (Land Surface Modeling), 2005-2014

Member, Advisory Committee, Chinese Academy of Meteorological Sciences, China Meteorological Administration, 2003-2006

Deputy Chair, Weather Research and Forecasting Model Working Group 14 (Land-Surface Modeling), 2000-2005

Member, Advisory Committee for the ARM/GCIP NESOB Data Development, 1999-2000

Review Panels for NASA and NOAA, 2002 - 2024:

Organized special sessions, chaired sessions, and gave invited presentations at American Meteorological Society (AMS), American Geophysical Union (AGU), International Association of Meteorology and Atmospheric Sciences (IAMAS), Global Energy and Water Experiment (GEWEX), Asia Oceania Geosciences Society (AOGS), International Association for Urban Climate (IAUC), and European Geophysical Union (EGU) conferences.

RESEARCH INTERESTS

Studied land-surface processes and land atmospheric interactions and their impacts on boundary layer structures using various field observations. Organized and coordinated the surface, vegetation, and soil observation network for the IHOP_02 field experiment in 2002. Led a 4-day intensive field experiment to use radiosonde to measure the boundary layer structures over a burned forest site in Hayman and over a natural forest site \ in Colorado in 2010. https://ral.ucar.edu/projects/ihop-soil-moisture-soil-temperature-and-vegetation-observation-network

Examined feedback between soil moisture, vegetation conditions, and landscape change, and regional summer precipitation.

Led and participated in developing the community Noah and Noah-MP land surface models; Led the implementation of the Noah land model in the National Centers for Environmental Prediction (NCEP/NOAA) operational numerical prediction models; Led

the implementation of Noah and Noah-MP land surface models in the community MM5 and WRF models. https://ral.ucar.edu/solutions/products/noah-multiparameterization-land-surface-model-noah-mp-lsm, https://ral.ucar.edu/solutions/products/wrf-noah-noah-mp-modeling-system

Led the development of a high-resolution land data assimilation system (HRLDAS) designed to initialize land state conditions for coupled numerical weather prediction and regional climate models. https://ral.ucar.edu/solutions/products/high-resolution-land-data-assimilation-system-hrldas

Led an international effort to develop and evaluate the integrated WRF-Urban modeling system. https://ral.ucar.edu/solutions/products/urban-canopy-model

Examined the effects of urbanization on the formation and evolution of urban heat islands and associated boundary layer structures, on summer precipitation, on local water resources, and possible mitigation strategies; and on regional air quality under future climate change scenarios.

Contributed to the NCAR Water System Program initiatives in developing and applying convection-permitting modeling for high-resolution regional climate simulations. https://ral.ucar.edu/hap/water-systems-program

For peer-reviewed publication citation and h-index information:

- Web of Science: https://www.webofscience.com/wos/author/record/JZC-6314-2024
- Google Scholar: https://scholar.google.com/citations?user=fewIukcAAAAJ&hl=en&oi=ao

COMMUNITY AND EDUCATION SERVICE

Workshops organized or co-organized

1999: Special session on the Global Soil Wetness Project for the Third International Scientific Conference on the Global Energy and Water Cycle, 16-19 June, Beijing, China
1999: Workshop on Land-surface Modeling and Application to Mesoscale Models. 24-25 June, Boulder, CO
2001: 2nd WRF Land-Surface Modeling Workshop, 16-17 August, Boulder, CO
2002: 1st NCAR/CAMS Model Development Workshop, 8-9 May, Boulder, CO
2002: IHOP Surface Data Workshop, 5-6 August, Boulder, CO
2003: 2nd NCAR/CAMS Model Development Workshop, 1-3 April, Beijing, China
2003: 3rd WRF Land-Surface Modeling Workshop, 18-19 June, Boulder, CO
2004: International Workshop on Urban Meteorology, 12-14 October, Beijing, China
2005: 4th WRF Land-Surface Modeling Workshop, 13-15 September, Boulder, CO
2006: National Urban Morphological Database Workshop, 11-12 May 2006, Boulder, CO
2007: 5th WRF Land-Surface Modeling Workshop, June, Boulder, CO
2008: 6th WRF Land-Surface Modeling Workshop, June, Boulder, CO
2011: 7th WRF Land-Surface Modeling Workshop, June, Boulder, CO

2011: International Workshop on Urban Weather and Climate: observation and modeling. Beijing, China.
2013: Workshop on Urban Landscapes and Climate Change, Argonne National Laboratory, Lemont, IL
2014: 8th WRF Land-Surface Modeling Workshop, June, Boulder, CO
2015: Workshop on the Study of Urban Impacts on Rainfall and Fog/Haze (SURF) Institute of Urban Meteorology, 21-23 October, 2015.
2019: Workshop on Urban Scale Processes and their Representation in High Spatial Resolution Earth System Models, Argonne National Laboratory, Lemont, IL. May 22-24, 2019.
2023: International Workshop: Integration of WUDAPT with Modeling Systems, NCAR, Boulder, 13 January 2023.
2023: Noah-MP Annual Users' Workshop, 23-25 May 2023, NCAR, Boulder.

Organized special sessions, chaired sessions, and gave invited presentations at American Meteorological Society (AMS), American Geophysical Union (AGU), International Association of Meteorology and Atmospheric Sciences (IAMAS), Global Energy and Water Experiment (GEWEX), Asia Oceania Geosciences Society (AOGS), International Association for Urban Climate (IAUC), and European Geophysical Union (EGU) conferences.

Education activities

Gave numerous seminars as a guest lecturer at U.S. universities and federal agencies, as well as for foreign universities and research institutes in France, England, Sweden, China, Japan, Hong Kong, Spain, Taipei, and South Korea. Below is a selected list:

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2024:	Invited talk at the 104th AMS Annual Meeting, Baltimore, MD, USA.
2023:	Invited talk at the WCRP Open Science Conference, Kigali, Rwanda
2021:	Invited Keynote Lecture at the Fifth International Workshop on Convection Permitting Modeling, Kyoto, Japan (virtual).
2015:	Invited Keynote Lecture at the Croucher Advanced Study Institute 2015-2016: Changing Urban Climate & the Impact on Urban Thermal Environment and Urban Living, The Chinese University of Hong Kong, Hong Kong, China.
2012:	Invited Keynote Lecture at the 4th International Winter School and Workshop, Ewha Womans University, Seoul, Korea
2008 – 2015	Co-chair, Thesis Committee, Sun Yat- Sen University, Guangzhou, China
2013 – 2019:	Thesis Committee, Purdue University, West Lafayette, IN

2013 – 2020:	Thesis Committee, Chinese Academy of Meteorological Sciences, Beijing, China
2007 – 2012:	Thesis Committee, Yon-Sei University, Seoul, Korea
2006:	Invited Keynote Speaker for the NCAR ASP Convective Forecasting Colloquium
2005 – 2010:	Thesis Committee, University of South Carolina, Columbia, SC
2004 – 2009:	Thesis Committee, Purdue University, West Lafayette, IN
2004:	Invited Keynote Speaker for the Boundary Layer Symposium, COMET/UCAR, Boulder, CO
2003 – present:	Graduate Faculty of University of Colorado, Boulder, CO
2003 - 2007:	Visiting Professor, Chinese Academy of Meteorological Study, Beijing, China
2003:	Invited Keynote Speaker for the Boundary Layer Symposium, COMET/UCAR, Boulder, CO
2003 – 2008:	Thesis Committee, University of Colorado, Boulder, CO
2003 - 2006:	Thesis Committee, Hong Kong University of Science and Technology, Hong Kong
2003 - 2004:	Thesis Committee, North Carolina State University, Raleigh, NC
1999 - 2002:	Member of the Graduate Faculty, Oklahoma State University, Stillwater, OK
1999 - 2002:	Thesis Committee, Oklahoma State University, Stillwater, OK

Graduate and post-graduate advisees, and student visitors

- Dr. Song-Lak Kang: NCAR Advanced Study Program (ASP) post-doc.
- Dr. Cenlin He: NCAR ASP post-doc.
- Dr. Zhe Zhang: NCAR ASP post-doc.
- Mr. Joseph Alfieri: Ph.D. student, Department of Earth and Atmospheric Science, Purdue University, West Lafayette, IN
- Mr. Allen Chang: Ph.D. student, Hong Kong University of Science and Technology, Hong Kong
- Ms. Kristi Arsenault, Ph.D. student, George Mason University, Arlington, VA
- Ms. XiaoYan Jiang, Ph.D. student, University of Texas, Austin, TX
- Ms. Umarporn Charusombat: Ph.D. student, Department of Earth and Atmospheric Science, Purdue University West Lafayette, IN
- Ms. Becky Eager: M.S. student, Dept. of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Rayleigh, NC

- Mr. Ethan Gutmann: Ph.D. student, Dept. of Geology, University of Colorado, Boulder, CO
- Mr. Seugbum Hong: Ph.D. student, Dept. of Geology, University of South Carolina, Columbia, SC
- Mr. Yoon-Jin Lim: Ph.D. student, Dept. of Atmospheric Sciences, Yonsei University, Korea
- Ms. Xing Liu, Ph.D. student, Department of Agronomy, Purdue University, West Lafayette, IN
- Mr. Jeff Fung Lo: Ph.D. student, Center for Coastal and Atmospheric Research, Hong Kong University of Science and Technology, Hong Kong
- Mr. Enrique Rosero: Ph.D. student, Dept. of Geological Sciences, University of Texas, Austin, TX
- Mr. Andrew Schmit: M.S. student, Dept. of Geology, University of Colorado, Boulder, CO
- Mr. Laurent Saussol: M.S. student, School of Meteorology, Toulouse, France
- Mr. Sridhar Venkataramana: Ph.D. student, Dept. of Biosystems and Agricultural Engineering, Oklahoma State University, Stillwater, OK
- Mr. Seugbum Hong, Ph.D. student, Dept. of Geology, University of South Carolina, SC
- Mr. Francisco Salamanca, Ph.D. student, Center for Research on Energy, Environment and Technology. Madrid, Spain
- Mr. Antoine Verrelle, M.S. student, School of Meteorology, Toulouse, France
- Mr. ZhiYong Wu: Ph.D. student, Dept. of Environmental Science, Sun Yat-Sen University, Guangzhou, China
- Mr. Lorenzo Giovannini: Ph.D. student, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Trento, Italy.
- Mr. Zhiyong Wu, Ph.D. student, Dept. of Environmental Science, Sun Yat-Sen University, Guangzhou, China
- Mr. Estatio Gutierrez, Ph.D. student, Dept. of Mechanical Engineering, CUNY, New York, NY
- Mr. Xiaoming Sun, Ph.D student, Duke University, Durham, NC
- Mr. Timothy Glotfelty, Ph.D student, North Carolina State University, Raleigh, NC
- Mr. Jiachuan Yang, Ph.D. student, Arizona State University, Tempe, AZ
- Ms. Guo Zhang, Ph.D. student, Chinese Academy of Meteorological Sciences, Beijing, China
- Mr. Bingcheng, Wan, Ph.D. student, Institute of Atmosphere Physics, Chinese Academy of Sciences, Beijing China.
- Mr. Bo Dan, Ph.D. student, Beijing Normal University, Beijing, China.

- Mr. Xitian Cai, Ph.D. student, Department of Geological Sciences, the University of Texas at Austin, Austin, TX
- Ms. Meng Huang, Ph.D. student, Institute of Atmosphere Physics, Chinese Academy Sciences, Beijing, China.
- Ms. Yingsha Jiang, Ph.D. student, Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences, Lanzhou, China,
- Ms. Li Zhang, Ph.D. student, Institute of Botany, Chinese Academy of Sciences, Beijing, China
- Ms. Xueyang Ma, Ph.D. student, Chinese Academy of Meteorological Sciences, Chinese Meteorological Administration, Beijing, China
- Mr. Bo Dan, Ph.D student, Beijing Normal University, China.
- Ms. XiaoYu Xu, Ph.D. student, Nanjing University of Information Science & Technology /Institute of Urban Meteorology, China.
- Mr. Baoqiang Wu, Ph.D. student, Nanjing University, China.
- Ms. Meiling Gao, Ph.D. student, Wuhang University, China.
- Mr. Zhe Zhang, Ph.D. student, University of Saskatchewan, Canada
- Mr. Jie Wang, Ph.D. student, Nanjing University, China
- Mr. Yong Chen, Ph.D. student, Nanjing University, China.
- Mr. Dario Di Santo, Ph.D. student, University of Trento, Italy
- Mr. Sergi Ventura Caballé, Ph.D. student, Institute of Environmental Science and Technology, Spain
- Mr. Lukas Pilz, Ph.D. student, Heidelberg Universit, Germany

Non-student visitors hosted (for more than three months)

- Dr. Sophie Bastin-Douet, IPSL/ service d'aeronomie/UPMC, Paris, France
- Dr. Susanne Grossman-Clarke, Global Institute of Sustainability, Arizona State University, Tempe, AZ
- Dr. Hayoyuki Kusaka, University of Tsukuba, Tsukuba, Japan
- Dr. Chuan-Yao Lin, Research Center for Environmental Changes, Academia Sinica, Taiwan
- Dr. Alberto Martilli, Center for Research on Energy, Environment and Technology, Madrid, Spain
- Dr. Gonzalo Miguez-Macho, Universidade de Santiago de Compostela, Santiago de Compostela, Spain
- Dr. Shiguang Miao, Institute of Urban Meteorology, CMA, Beijing, China
- Dr. Haruyasu Nagai, Research Group for Environmental Science, Japan Atomic Energy Agency, Ibarakiken, Japan

- Dr. Jiangping Tang, Nanjing University, Nanjing, China
- Dr. Zhiqiu Gao, Institute of Atmospheric Physics, Chinese Academy of Science, Beijing, China
- Dr. Anil Kumar, Purdue University, West Lafayette, IN.
- Dr. Jason Ching, University of North Carolina, Chapel Hill, NC
- Dr. Lijuan Wen, Cold and Arid Regions Environmental and Engineering Research Institute, Lanzhou, China
- Prof. Jose Fernando Jimenez, Ph.D student, University of Antioquia, Medellin, Colombia.
- Dr. Chunlei Meng, Institute of Urban Meteorology, CMA, Beijing, China
- Dr. Chungu Lu, National Science Foundation, Washington, D.C.
- Dr. Flávia Noronha Dutra Ribeiro, School of Arts, Sciences and Humanities of the University of São Paulo (EACH-USP) in São Paulo, Brazil.
- Dr. Bo Wang, Henang University, China.
- Dr. Yongwei Wang, Nanjing University of Information Science & Technology, China.
- Dr. Tongren Xu, Beijing Normal University, China
- Dr. Banjun Cao, School of Atmospheric Sciences, Chengdu University of Information, China.
- Dr. Chengcheng Huang, Institute of Urban Meteorology, CMA, Beijing, China.

NCAR Activities

2023	UCAR Leadership Academy
2022 – 2023:	NCAR Internal Earth System Modeling Working Group
2023	Chair, NCAR/RAL Project Scientist I Search Committee
2022	Chair, NCAR RAL Project Scientist III promotion committee
2020	Chair, NCAR/RAL Associated Scientist III Search Committee
2019	Chair, NCAR/RAL Project Scientist I Search Committee
2017 - 2019:	NCAR Appointments Review Group (ARG): member and sub-committee chair
2016 – 2018:	Chair, RAL UCAR best-publication award selection committee
2011 - 2013:	NCAR Appointments Review Group (ARG): member and sub-committee chair
2007 - 2012:	NCAR Biosphere Exchange of Energy, Aerosols, Carbon, H_2O, Organics, and Nitrogen (BEACHON) Steering Committee
2006 - 2007:	NCAR TIIMES Science Advisory Council

2005: NCAR Scientist/Research Engineer I Search Committee

2003 - 2007: NCAR Water Cycle Program Steering Committee

2002 - 2004: UCAR Distinguished Achievement and Outstanding Accomplishments Awards Jury

Grants funded

1. NASA (PI), Using the CASES Observations to Assess and Parameterize the Impact of Land Surface Heterogeneity on Area-Average Surface Heat Fluxes for Large-Scale Coupled Atmosphere-Hydrology Models. 1998-2001. $350,000
2. NASA (NCAR PI), Land-Surface Modeling and Data Assimilation with In Situ and Remote Sensing Data from CASES-97, 1999-2002. $229,500
3. U.S. Air Force Weather Agency (PI), Improving Land-Surface Models for MM5 and WRF, 2001-2009, ~ $180K/year and renewed on yearly basis.
4. NSF/U.S. Weather Research Program (PI), Land-Surface/Atmosphere Interactions and its Relationship to Improving Quantitative Precipitation Forecasting of Deep Convection in the Southern Great Plains, 2001-2003. $379,358
5. NSF (Co-PI), Education, Research and International Training for U.S. Students and Junior Scientists in Atmospheric Sciences, 2001-2004. $600,000
6. NASA (NCAR PI), Temporal Variability of Plant Cover in Semiarid Environments and its Influence on Water and Energy Cycling Between the Land Surface and Atmosphere, 2004-2006. $600,000
7. NOAA (NCAR PI), Impact of Transpiration Feedback on Land Atmosphere Water Vapor Exchange and Land-Surface Memory, 2004-2006. $270,000
8. CFD Research Corporation (PI), Improved High-Fidelity Forecasting Capability Using Combined Mesoscale and Microscale Models. 2006-2008. $180,000
9. NASA (Co-PI), A Soil Temperature and Moisture Decision Support System for Agriculture, 2006-2009. $897,878
10. U.S. Air Force Weather Agency (PI), Coupling LIS with WRF, 2008-2010. $176, 304
11. NCAR Director Opportunity Funds (PI), Establish an Integrated Atmosphere/Urban/Chemistry/Aerosol Modeling Framework for Addressing Urban Environmental Issues, 2007-2009. $138, 000
12. Defense Threat Reduction Agency (PI), Developing Improved Meteorological Analyses and Forecasts for Metropolitan Areas in Coastal Zones, 2007-2009. $438,000
13. NOAA (PI), Integrating Recent Remote Sensing Products to Improve the Representation of Vegetation and Transpiration Processes in the Noah Land Surface Model, 2007-2010. $425,000

14. NASA (PI), Atmospheric Responses to Land Surface Forcing and Their Impact on Precipitation Processes in the Southern Great Plains, 2006-2009. $516,984
15. NSF/U.S. Weather Research Program (PI), Impacts of Land/PBL Interactions on Short-Term Prediction of Precipitation: A Focused Study over the IHOP_2002 Region, 2007-2009. $220,000
16. NOAA (NCAR PI), Improving Hydrological Representations in the Community Noah Land Surface Model for Intra-seasonal to Interannual Prediction Studies, 2007-2010. $343,648
17. NSF (NCAR Co-PI), Collaborative Research: Arctic System Reanalysis, Period: 2007-2011. $944,075
18. NOAA (PI), Including the Impacts of Forest Disturbances in Western North America in Climate Models, 2009-2012. $479,000
19. NSF/U.S. Weather Research Program (PI), Impacts of Land-Surface Exchange Processes on Surface and Elevated Convection: A Contrasting Study on IHOP_2002 and BAMEX_2003, 2009-2012. $180,000
20. U.S. Air Force Weather Agency (PI), Improving Noah LSM in WRF, 2009-2010. $160,000
21. U.S. Air Force Weather Agency (PI), Improve and explore the use of the new prototype community Noah-MP LSM in WRF, 2010-2011. $170,000
22. NSF (NCAR Co-PI), PIRE: Developing Low-Carbon Cities in the USA, China & India through Inter-Disciplinary Integration Across Engineering, Environmental Sciences, Social Sciences & Public Health, 2012-2014. $489,560
23. U.S. Air Force Weather Agency (PI), Experimentally implement the new Noah-MP LSM in WRF, 2011-2012. $166, 000
24. NCAR/RAL Opportunity (PI), Developing the integrated WRF-Crop regional climate modeling system, 2012-2013. $47, 325
25. NOAA (PI), Improving the NCEP Climate Forecast System (CFS) through Enhancing the Representation of Soil-Hydrology-Vegetation Interactions, 2014-2016. $400,000
26. U.S. Air Force Weather Agency (PI), Enhancing physical coupling between Noah-MP, surface layer, and planetary boundary layer (PBL) schemes in WRF, 2014-2015. $180,000
27. Institute of Urban Meteorology (PI), Improving land and PBL schemes in the BJ-RUC, 2014-2015. $100,000
28. NSF/USDA (Co-PI), Physics-Based Predictive Modeling for Integrated Agricultural and Urban Applications, 2015-2019. $709,601
29. NCAR Strategic Capability (PI), High-Resolution Simulation of the Effects of Climate-Urbanization-Crop Interactions, 2016-2017. 11.4 million core-hours on NCAR Yellowstone.

30. Institute of Urban Meteorology (PI), Improving the BJ-RUC operational model, 2017-2018. $120,000
31. NSF (NCAR PI), WaterSmart, 2017-2020. $360,000
32. NOAA (NCAR Co-PI), Exploring process and scale dependencies on the predictability and variability of drought in the United States, 2017-2020. $377,000
33. Institute of Urban Meteorology (PI), Improving the representation of the land-surface/boundary layer in the BJ-RUC operational model, 2017-2018. $92,649
34. NOAA (PI), Representing agricultural management processes in the National Water Model, 2018–2020. $546,706
35. NASA (PI), Improved understanding and prediction of extreme precipitation in multiple urban regions, 2020-2024. $1,349,800
36. NOAA (Co-PI), Disentangling complex interactions and feedbacks among droughts, fires, and snowpack in the western U.S. by integrating observations and models, 2020-2023. $506,815
37. University of Tsukuba (PI), Urban extreme weather research collaboration, 2020-2023. $9,854
38. NOAA (Co-I), Improving land-surface flux partitioning in operational short-range forecasts through integration of NOAA weather and water model, 2020-2023. $275,302
39. U.S. Geological Survey (NCAR Co-PI), USGS Hydroclimate Testbed, 2020-2023. $3,818,531
40. NOAA (Co-PI), Improve snowpack for NOAA UFS S2S prediction, 2022-2025. $1,049,145
41. NASA (Co-PI), Strategic Partnering Collaborative Project: LIS-Noah-MP coupling and integration, 2022-2023. $149,782
42. NSF (NCAR PI), Convergence Accelerator Track J: Building a digital twin for national-scale field-level crop monitoring, prediction, and decision support; Phase-1, 2022-2023. $60,000
43. NSF (NCAR PI), Convergence Accelerator Track J: Building a digital twin for national-scale field-level crop monitoring, prediction, and decision support; Phase-2, 2023-2026. $360,000

Publication List

Theses

On the spectra of cloud drops in a convective region. 1986, M.S. thesis, Blaise Pascal University, Clermont-Ferrand, France, 89 pp.

Numerical study of the electrification processes of warm clouds. 1990, Ph.D. dissertation, Blaise Pascal University, Clermont-Ferrand, 193 pp.

Refereed journal articles

1. Avissar, R., and **F. Chen**, 1993: Development and analysis of prognostic equations for mesoscale kinetic energy and mesoscale (subgrid-scale) fluxes for large-scale atmospheric models. *J. Atmos. Sci.*, **50**, 3751-3774.
2. **Chen, F.,** and R. Avissar, 1994: The impact of land-surface wetness heterogeneity on mesoscale heat fluxes. *J. Appl. Meteorol.*, **33**, 1323-1340.
3. **Chen, F**., and R. Avissar, 1994: Impact of land-surface moisture variability on local shallow convective cumulus and precipitation in large-scale models. *J. Appl. Meteorol.*, **33**, 1382-1401.
4. **Chen, F**., K. Mitchell, J. Schaake, Y. Xue, H. Pan, V. Koren, Y. Duan, M. Ek, and A. Betts, 1996: Modeling of land-surface evaporation by four schemes and comparison with FIFE observations. *J. Geophys. Res.*, **101**, 7251-7268.
5. Schaake, J.C., V.I. Koren, Q.Y. Duan, K. Mitchell, and **F. Chen**, 1996: Simple water balance model (SWB) for estimating runoff at different spatial and temporal scales. *J. Geophys. Rev.*, **101**, 7461-7475.
6. Betts, A., **F. Chen**, K. Mitchell, Z. Janjic, 1997: Assessment of land-surface and boundary-layer models in 2 operational versions of the Eta model using FIFE data. *Mon. Wea. Rev.*, **125**, 2896-2915.
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