CURRICULUM VITAE

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Educational Background:

B.S.	Meteorology, Department of Geophysics	1984 Peking University
Ph.D.	Atmospheric Sciences	1991 Columbia University

Professional Experiences:

Vice Chair, Department of Atmospheric and Oceanic Sciences, UCLA, 2019-Present
Professor, Department of Atmospheric and Oceanic Sciences, UCLA, 2016-Present
Associate director, Joint Institute for Regional Earth System Science and Engineering, UCLA, 2016-present
Professor, the Jackson School of Geosciences, 2008- 2016
The University of Texas at Austin, Austin, TX
Associate Chair, Department of Geological Sciences, The University of Texas at Austin, 2012-2015.
Leader, Climate Dynamics Discipline, Jackson School of Geosciences, The University of Texas at Austin, 2012-2014.
Visiting Chair Professorship, Tsinghua University, 2011-present
Associate Professor, School of Earth Atmospheric Sciences,1999 - 2008
Georgia Institute of Technology, Atlanta, GA
Guest Professor: Beijing Normal University, 2007-2011
Assistant Professor, Department of Atmospheric Sciences,1994-1999
The University of Arizona, Tucson, AZ
Visiting Scientist, Geophysical Fluid Dynamic Laboratory,1993-1994
Princeton University, Princeton, NJ
Post-doctoral researcher, Department of Atmospheric1991-1993
Sciences, UCLA, Los Angeles, CA
Graduate Research Assistant, Columbia University1985-1991

Research Areas:

Convection, cloud and precipitation processes and their role in climate
Atmosphere and land/vegetation interactions, drought mechanisms and prediction
Satellite remote sensing applications and retrievals
Atmospheric transport in the upper troposphere and lower stratosphere

Honors:

NSF CAREER Award, 1995
NASA Mission To Planet Earth New Investigator Award, 1996
The Chinese National Science Foundation (CNSF), Outstanding Oversea-Chinese Scientist Award, 2004
Georgia Institute of Technology Hesbourgh Award Teaching Fellow, 2004
AGU 2006 Editors' Citation for Excellence in Refereeing for Geophysical Research Letter.
NASA Group Achievement Award, UARS Team. 2007
Fellow, the American Meteorological Society, 2015
Fellow, the American Geophysical Union, 2020
Fellow, the American Association for the Advancement of Science, 2020.

Peer Reviewed Publications

Published: Number: 123, Peer reviewed: 116

Web of Science: h-Index: 37, time cited: 4678
(http://www.scopus.com/authid/detail.uri?authorId=7203054240)
Google h-index: 47, Google i10-index: 92, Total citations: 7842)
(http://scholar.google.com/citations?user=JaOJEp8AAAAJ&hl=en)

*denotes works led by my students,$^{+}$ denote papers led by my postdoctoral researchers, ^ denotes the papers I am the corresponding author.

Submitted or revised:

1. Chakraborty, S., J. H. Jiang, H. Su, R. Fu, 2020: Aerosol dimming effect on the wet season onset over the Congo basin. Submitted to ACP.
2. Zhao^{+}, S. Y., R. Fu, Y. Z. Zhuang, G. Y. Wang, Long-lead seasonal prediction of streamflow over the Upper Colorado River Basin: the Role of the Pacific Sea Surface Temperature and Beyond. Submitted to J. Climate.
3. Wang, Y., G. J. Zhang, P. Gong, R. E. Dickinson, **R. Fu**, X. C. Li, and J. Yang, 2019: Winter Warming in North America Linked to Impermeable Surface Expansion in China, Submitted to Science.
4. Liu, Y., R. G. Liu, **R. Fu**, R. E. Dickinson, C. Y. Wu, X. Cheng, W. Li, J. M. Chen, Q. S. Ge, 2020: Glaciers mass loss has accelerated in the western Tibetan Plateau since 2013, Submitted to GRL
5. Worden, J., S. Saatchi[1], M. Keller, A. Bloom, **R. Fu**, S. Worden, J.J. Liu, N. Parazoo, J. Fisher, H. Worden, Y. Yin, K. Bowman, P. Gentine, A. G. Konings, G. Quetin, M. Williams[8], J.T. Reager, A. Barkhordarian, K. Fahy, M.J. Shi, D. Schimel, 2019: Tropical Carbon Water Cycle, Rev. of Geophys., Submitted.
6. Worden*, S., **R. Fu**, S. Chakraborty, J. Liu, J. Worden, 2020: Where does moisture come from for rainfall over the Congo basin? JGR-bio, revised.

Published:

2020:

1. Madakumbura, G. D., M. L. Goulden, A. Hall, R. Fu, M. A. Moritz, C. D. Koven, L. M. Kueppers, C. A. Norlen, and J. T. Randerson, 2020: Recent California tree mortality portends future increase in drought-driven forest die-off, Env. Res. Lett., 15, 124040.

2. Jiang, Y., G. Wang, W. Liu, A. Erfanian, Q. Peng, **R. Fu**, 2020: Modeled Response of South American Climate to Three Decades of Deforestation, J. Climate, In Press.

3. Zhuang[+], Y. Z. Erfanian, A. **R. Fu**, 2020: Dryness over the US Southwest, a Springboard for Cold Season ENSO to Influence Summer Rainfall over the US Great Plains, J. Hydrometeorology, 1.aop.

4. Dai, L, J. S. Wright, and **R. Fu**. "Moisture and energy budget perspectives on summer drought in North China." *J. Climate* 33.23 (2020): 10149-10167.

5. Ren, D., **Fu, R.,** Dickinson, R.E., Leslie, L.M. and Wang, X., 2020. Aviation Impacts on Fuel Efficiency of a Future More Viscous Atmosphere. *Bulletin of the American Meteorological Society*, *101*(10), pp.E1761-E1780.

6.Wang, B., M. Biasutti, M. P. Byrne, C. Castro, C. P. Chang, K. Cook, **R. Fu**, A. Grimm, K. J. Ha, H. Hendon, A. Kitoh, M. K. Roxy, R. Krishnan, J. Y Lee, J. P. Li, J. Liu, A. Moise, S. Pascale, A. Seth, C. H. Sui, A. Turner, S. Yang, K. S. Yun, L. X. Zhang, T. J. Zhou, 2020: Monsoon Climate Change Assessment, Bull. Amer, Meteor. Soc. 2020 Apr 17th.

7.[+]Zhuang[+], Y. Z. **R. Fu**, H.Q. Wang, 2019: large-scale atmospheric circulation patterns associated with us great plains warm season droughts revealed by self-organizing maps, JGR-Atmo, https://doi.org/10.1029/2019JD031460.

2019:

8. Chakraborty, S., J. Jiang, H. Su, **R. Fu**, 2019: Deep Convective Evolution from Shallow Clouds over the Tropical Rainforests. JGR-Atmo. 125, e2019JD030962. https://doi.org/10.1029/2019JD030962.
9. Fernando+, D. N., S. Chakraborty, **R. Fu**, R. E. Mace, 2019: Assessing the potential for providing an early warning of summer drought over Texas and the south central United States. *Climate Service*, https://doi.org/10.1016/j.cliser.2019.100133.
10. Leite-Filho, A.T., Costa, M.H. and **Fu, R.,** 2020. The southern Amazon rainy season: The role of deforestation and its interactions with large-scale mechanisms. *International Journal of Climatology*, *40*(4), pp.2328-2341.

11. Gentine, P., A. Massmann, B. R. Lintner, S. H. Alemohammad, **R. Fu**, J. K. Green, D. Kennedy, J. V. G. de Arellano, Land-atmospheric Interactions in the tropics, Hydrology and Earth System Sciences, 23, 4171–4197, 2019 https://doi.org/10.5194/hess-23-4171-2019.
12. Shi, M. J., J. J. Liu, J. R. Worden, A. A. Bloom, S. Wong, **R. Fu**, 2019: Can the vegetation legacy effects of Amazonian droughts delay the dry to wet seasonal transition? A case study of the 2005 Amazonian drought, *GRL.* **doi.org/10.1029/2019GL083776**.
13. Erfanian[+], A. **R. Fu**, 2019: Drier spring over the US Southwest as an important precursor of summer droughts over the US Great Plains, ACP, 19.24 (2019): 15199-15216.
14. Costa, M.H., Fleck, L.C., Cohn, A.S., Abrahão, G.M., Brando, P.M., Coe, M.T., **Fu, R.,** Lawrence, D., Pires, G.F., Pousa, R. and Soares-Filho, B.S., 2019. Climate risks to Amazon agriculture suggest a rationale to conserve local ecosystems. *Frontiers in Ecology and the Environment*, *17*(10), pp.584-590
15. Grimm, A. M., F. Dominguez, I. F. A. Cavalcanti, T. Cavazos, M. A. Gan, P. L. Silva Dias, **R. Fu**, C. Castro, H. Hu, M. Barreiro, 2018: South and North American Monsoons: characteristics, life cycle, variability, modelling and prediction, Chapter XX, The Multi-scale Global Monsoon System, Ed. C. P. Chang, sponsored by WMO. In Press.

2018:

16. Chakraborty+, S., **R. Fu**, S. T. Massie, D. Rosenfeld, J. Marengo, 2018: Can aerosols enhance the total rainfall of the mesoscale convective systems? *GRL*, 45, 13,099-13,106, **https://doi.org/10.1029/2018GL080371**.
17. Chakraborty+, S., K. Schiro, R. Fu, D. Neelin, 2018: On the role of aerosols, humidity, and vertical wind shear in the transition of shallow to deep convection in the Green Ocean Amazon, ACP, 18, 11135-11148, https://doi.org/10.5194/acp-18-11135-2018.
18. Ren, D. D, Bornman, J. F., L. Lesilie, Y. Song, R. Fu, R. E. Dickinson, 2018: Impact of climate warming on maximum payloads, Climate Dynamics, 1-11.
19. Zhuang Y[*], **Fu R**, Wang H. How do environmental conditions influence vertical buoyancy structure and shallow-to-deep convection transition across different climate regimes?. *J. Atmo. Sci*, 75, 1909-1932, *https://doi.org/10.1175/JAS-D-17-0284.1*.
20. Zhao B, Liou K.N., Gu Y., Jiang J.H., Li QB, Q.B. Li, **Fu R**., Huang L., Liu X.H., Shi X.G., Su H., C. L. He. 2018: Impact of aerosols on ice crystal size. Atmospheric Chemistry and Physics. 18, 1065-1078.

2017:

21. Zhang[*], K., **R. Fu**, M. J. Shaikh, S. Ghan, M. H.Wang, R. Leung, R. E. Dickinson, J. Marengo, 2017: Influence of superparameterization and a higher-Order turbulence closure on rainfall bias over Amazonia in Community Atmosphere Model Version 5, JGR-Atmos. Vol. 122, Iss. 18, 9879-9902. 10.1002/2017JD026576.
22. ^Bowerman A.R., **R. Fu** (Corresponding author), L. Yin, D. N. Fernando, P. A. Arias, and R. E. Dickinson, 2017, An influence of southern hemispheric cold surge on the

North Atlantic through a shallow atmospheric circulation. JGR-atmo. Vol 122, Iss 19, 10,135-10,148.

23.^Wright, J. S., **R. Fu** (corresponding author**)**, J. Worden, S. Chakraborty, N. Clinton, C. Risi, Y. Sun, & L. Yin, 2017: A rainforest-initiated wet season over the southern Amazon, *PNAS*, July 20, doi.org/10.1073/pnas.1621516114

24. Koster, R., A. Betts, P. Dirmeyer, M. Bierkens, K. Bennett, S. Dery, J. Evans, R. Fu, F. Hernandez, R. Leung, X. Liang, M. Masood, H. Savenije, G.L. Wang, and X. Yuan, 2017, Hydroclimatic Variability and Predictability: A Survey of Recent Research, Hydro. Ear. Sys. Sci., Vol 21, Iss. 7, 3777-3798.

25. Marengo, J., G. F. Fisch, L. M., Alves, N. V. Sousa, **R. Fu**, Y. Z., Zhang, 2017: Meteorological context of the onset and end of the rainy season in Central Amazonia during 2014-15 Go-Amazon Field Experiment, *ACP*, Vol 17, Iss. 12, 7671-7681.

26. Zhuang*, Y. Z., **R. Fu**, J. A. Marengo and H. Q. Wang, 2017: seasonal variation of shallow-to-deep convection transition and its link to the environmental conditions over central amazon, *JGR-Atmo.*, vol 122, iss 5, 2649-2666, doi: 10.1002/2016jd025993.

27. Alves, L., Marengo, J. , Fu, R. and Bombardi, R. (2017) Sensitivity of Amazon Regional Climate to Deforestation. *American Journal of Climate Change*, **6**, 75-98. doi: 10.4236/ajcc.2017.61005.

2016:

28. Zhang*, Z, W. J. Randel and **R. Fu**, 2016: Relationships between outgoing longwave radiation and diabatic heating in reanalysis, *Climate Dynamics, 1-19.*

29.Gu, Yu, K. N. Liou, J. H. Jiang, **R. Fu**, Sarah Lu, and Y. Xue. 2016 "A GCM investigation of impact of aerosols on the precipitation in Amazon during the dry to wet transition." *Climate Dynamics*, 1-12.

30.Zhang, K*, **R. Fu**, T. Wang, 2016: Impact of geographic variations of convective and dehydration center on stratospheric water vapor over the Asian monsoon region, *Atmo. Chem. Phys.*, 16.12: 7825-7835.

31.Chabraborty, S.*, **R. Fu**, S. Massie, G. Stephens, 2016: "Relative influence of the meteorological conditions and aerosols on the lifetime of the mesoscale convective systems", *PNAS*, doi/10.1073/pnas.1601935113.

32.*Pu, B*+., R. E. Dickinson, **R. Fu**, 2016: Diurnal Spatial Variability of Great Plains Summer Precipitation Related to the Dynamics of the Low-Level Jet. *J of Geophys. Sci-Atmosi*, **71,** DOI: **10.1002/2015JD024045**.

33.*Fernando*+*, *D.N*, K.S. Mo, **R. Fu**, A. Bowerman, B. R. Scanlon, R. S. Solis, L. Yin, R. E. Mace, J. R. Mioduszewski, T. Ren, K. Zhang, 2016: "What caused the spring intensification and winter demise of the 2011 drought over Texas?." *Clim. dyn*, 3077-3090.

34.*Pu*[+]*, B*., **R. Fu**, R. E. Dickinson, and D. N. Fernando, 2016: Why do summer droughts in the southern Great Plains occur in some La Niña years but not others? *J Geophys Res-Atmos*. 121.3 (2016): 1120-1137.

2015:

35.*Sun*[+]*, Y*, **R. Fu**, R.E. Dickinson, J. Joiner , C. FrankenberL.H Gu, Y.L. Xia, and D. N. Fernando, 2015: The potential of satellite solar-induced chlorophyll fluorescence for dynamic drought monitoring: Insights from two contrasting extreme events, *J. Geophys. Res.-Ecology*. 120.11: 2427-2440.

36.Lin, C.G., K.Yang , J. P. Huang, W. J. Tang, J. Qin, X. L. Niu, Y. Y. Chen, D. L. Chen, N. Lu & **R. Fu**, 2015: Impacts of wind stilling on solar radiation variability in China, *Scientific Report,* | 5:15135 | DOI: 10.1038/srep15135.

37.Randel, W. J., K. Zhang, **R. Fu**, 2015: What controls stratospheric water vapor in the NH summer monsoon regions? *JGR-Atmo*., 10.1002/2015JD023622.

38.Bi, J, Knyazikhin Y, S. Choi, T. Park, J. Barichivich, P. Ciais, **R. Fu**, S. Ganguly, F. Hall, T. Hilker, A. Huete, M. Jones, J. Kimball, A. I. Lyapustin, M. Mõttus, R. R. Nemani, S. Piao, B. Poulter, S. R. Saleska, S. S. Saatchi, L. Xu, L.M. Zhou, and R. B. Myneni, 2014: "Sunlight mediated seasonality in canopy structure and photosynthetic activity of Amazonian rainforests" *Environ Res. Lett*., 10.6 (2015): 064014.

39.Chakraborty,S*. **R. Fu**, J. S. Wright, S. T. Massie, 2015: Variations in deep convective transport of aerosols to the upper troposphere deduced from satellite observations, *JGR-Atmo,* 120, 13, 6515-6536.

40.Gao H[+]. L. S. Zhang, **R. Fu**, W. H. Li, R. E. Dickinson, 2015: Inter-annual variation of the surface temperature of tropical forests from satellite observations, *Advances in Meteorology*, Article ID 564126.

41. **Fu, R**., 2015: An Accelerated Drying in the Tropics by Global Warming, *PNAS,*| March 24, 2015 | vol. 112 | no. 12 | 3593–3594.

42. Arias, P. A.*, **R. Fu,** C. Vera, M. Rojas, 2015: A correlated shortening of the North and South American monsoon seasons in the past few decades, *Climate Dynamics.* **45,** Issue 11 (2015), Page 3183-3203 (10.1007/s00382-015-2533-1).

2014

43.Huang, L.*, **R. Fu**, J. H. Jiang, 2014: Impacts of Fire Emissions and Transport Pathways on the Interannual Variation of CO in the Tropical Upper Troposphere, *Atmos. Chem. Phys.,* 14, 4087-4099, 2014.

44. Yin, L.*, **R. Fu**, Y. F. Zhang, P. A. Arias, D. N. Fernando[a], W.H. Li, K. Fernandes, A. R. Bowerman, 2014: What controls the interannual variation of the wet season onsets over the Amazon? *J. Geophys. Res. Atmos*., 119, 2314–2328, doi:10.1002/2013JD021349.

2013

45. Wuebbles, D., G. Meehl, K. Hayhoe, T. R. Karl, K. Kunkel, B. Santer, M. Wehner, B. Colle, E. M. Fischer, **R. Fu**, A. Goodman, E. Janssen, H. Lee, W. Li, L. N. Long, S. Olsen, A. Seth, J. Sheffield, L. Sun, 2013: CMIP5 Climate Model Analyses: Climate Extremes in the United States, *Bull. Ameri. Meteor. Soc*. 10.1175/BAMS-D-12-00172.1.

46. Sheffield, J. A. Barrett, B. Colle, **R. Fu,** K. L. Geil, Q. Hu, J. Kinter, S. Kumar, B. Langenbrunner, K. Lombardo, L. N. Long, E. Maloney, A. Mariotti, J. E. Meyerson, Ki. C. Mo, J. D. Neelin, Z. Pan, A. Ruiz-Barradas, Y. L. Serra, A. Seth, J. M. Thibeault, J. C. Stroeve, 2012: North American Climate in CMIP5 Experiments. Part I: Evaluation of 20th Century Continental and Regional Climatology, *J. Climate* 26: 9209-9245.

47. Maloney, E. D., S. J. Camargo, E. Chang, B. Colle, **R. Fu**, K. L. Geil, Q. Hu, X. Jiang, N. Johnson, K. B. Karnauskas, J. Kinter, B. Kirtman, S. Kumar, B. Langenbrunner, K. Lombardo, L. N. Long, A. Mariotti, J. E. Meyerson, Kingtse C. Mo, J. D. Neelin, Z. Pan, R. Seager, Y. Serra, A. Seth, J. Sheffield, Julienne Stroeve, J. Thibeault, S. P. Xie, C.Z. Wang, B. Wyman., and M. Zhao., 2012: North American Climate in CMIP5 Experiments: Part III: Assessment of 21st Century Projections, *J. Climate* 27: 2230-2269.

48. Sheffield, J. S. J. Camargo, **R. Fu**, Q. Hu, X. Jiang, N. Johnson, K. B. Karnauskas, J. Kinter, S. K., B. Langenbrunner, E. Maloney, A. Mariotti, J. E. Meyerson, J. D. Neelin, Z. Pan, A. Ruiz-Barradas, R. Seager, Y. L. Serra, D. Z. Sun, C.Z. Wang, S. P. Xie, J. Y. Yu, T. Z., M. Zhao, 2012: North American Climate in CMIP5 Experiments. Part II: Evaluation of 20th Century Intra-Seasonal to Decadal Variability, *J. Climate*, 26, 9247–9290. doi: http://dx.doi.org/10.1175/JCLI-D-12-00593.1

49. White, J. W., R. B. Alley, D. E. Archer, A. D. Barnosky, J. Foley, **R. Fu,** M. M. Holland, M. S. Lozier, J. Schmitt, L. C. Smith, G. Sugihara, D. W. J. Thompson, A. J. Weaver, S. C. Wofsy, 2013: Abrupt Impacts of Climate Change, Committee Report on Understanding and Monitoring Abrupt Climate Chane and its Impact, National Research Council of the National Acadmies.

50. Yang, J, P. Gong, **R. Fu**, M. H. Zhang, J. M. Chen, S. L. Liang, B. Xu, J. C. Shi, R. E. Dickinson, 2013: the role of satellite remote sensing in climate change studies, *Nature Climate Change*. September 15th, 2013. 10.1038/nclimate1908.

51. *Huang, L., J. H. Jiang, J. L. Tackett, H. Su, **R. Fu**, 2013: Seasonal and Diurnal Variations of Aerosol Extinction Profile and Type Distribution from CALIPSO 5-year Observations, *JGR-Atmosphere*. 118/, 10, 4572–4596, doi:10.1002/jgrd.50407, 2013.

52.Li, W.H. L. F. Li, **R. Fu**, Y. Deng and H. Wang, 2013: Comments on "influence of the Bermuda High and atmospheric moistening on changes in summer rainfall in the Atlanta, Georgia region, USA", *J. International Climatology*, doi: 10.1002/joc.3675.

53.Lin, C. G., K. Yang, J. Qin, **R. Fu**, 2013: Observed coherent changes of surface and upper-air wind speed over China since 1960, *J. Climate*, 26(9), 2891-2903.

2012

54.Yin, L.*, **R. Fu,** E. Shevliakova, and R. E. Dickinson, 2012: How Well Can CMIP5 Simulate Rainfall Seasonal and Interannual Variability over Amazonian and South American Monsoon Regions and Their Controlling Processes? *Climate dynamics*, DOI 10.1007/s00382-012-1582-y

55.Li, W. H., L. F. Li, **R. Fu**, Y. Deng and H. Wang, 2012: Reply: Comments on "Changes to the North Atlantic Subtropical High and Its Role in the Intensification of Summer Rainfall Variability in the Southeastern United States, *J. Climate*, 26(2), 683-688.

56.Huang, L.*, **R. Fu**, J. Jiang, J. Wright, 2012: Geographic and Seasonal Distributions of CO Transport Pathways and Their Roles in Determining CO Centers in the Upper Troposphere, *Atmos. Chem. Phys.* 12, 4683–4698, doi:10.5194/acp-12-4683-2012.

57.Samanta, A. Y. Knyazikhin, L. Xu, R. E. Dickinson, **R. Fu**, M. H. Costa, S. S. Saatchi, R. R. Nemani, and R. B. Myneni, 2012: Seasonal Changes in Leaf Area of Amazon Forests from Leaf Flushing and Abscission, *JGR-Bio*. 117, G01015, doi:10.1029/2011JG001818.

58.Arias, P. A*. **R. Fu,** K. C. Mo, 2012: Decadal variation of rainfall seasonality in the North American Monsoon region and its potential causes, *J. Climate*, 25, 4258-4274.

59.Wright, J. S.*, **R. Fu**, S. Fueglistaler, Y. S. Yu, Y. Zhang, 2011: The influence of summertime convection over South-East Asia on water vapor in the tropical stratosphere, *J. Geophys. Res.*, 116, D12302, doi:10.1029/2010JD015416.

2011

60.Ren, D.+ D, **R. Fu**, L. M. Leslie, J. L. Chen, C. R. Wilson, and D. J. Karoly, 2011: The Greenland Ice Sheet Response to Transient Climate Change*, J. Climate*, 24, 3469-3483 DOI: 10.1175/2011JCLI3708.1

61.Ren, D.+, **R. Fu**, L. M. Leslie, D. J. Karoly, J. Chen, and C. Wilson, 2011: A multirheology ice model: Formulation and application to the Greenland ice sheet, *J. Geophys. Res.*, 116, D05112, DOI: 10.1029/2010JD014855

2010

62.Li, W.H.+, L. F. Li, **R. Fu**, Y. Deng and H. Wang, 2010: Changes of the North Atlantic Subtropical High and Its Role in the Intensification of Summer Rainfall Variability in the Southeastern United States, *J. Climate*, doi: 10.1175/2010JCLI3829.1.

63. Merritts, D. J., L. K. Blum, S. L. Brantley, A. Chin, W. E. Dietrich, T. Dunne, T. A. Ehlers, **R. Fu,** C. Paola, K. X. Whipple, 2010: Landscapes on the Edge: New Horizons for Research on Earth's Surface. Committee Report on Challenges and Opportunities in Earth Surface Processes, National Research Council of the National Academies.

64. Ren, D[+]., **R. Fu,** L. M. Leslie, R. E. Dickinson., 2010: Predicting storm-triggered landslides and ecological consequences. *Bull. Amer. Meteo.* Soc., doi: 10.1175/2010BAMS3017.1

65. Ren, D[+]. R., L. M. Leslie, **R. Fu,** R. E. Dickinson, X. Xin, 2010: A Storm-Triggered Landslide Monitoring and Prediction System: Formulation and Case Study. *Earth Interact*., 14, 1–24. doi: 10.1175/2010EI337.1.

66. Ren, D.[+], L. M. Leslie, **R. Fu,** and R. Dickinson, 2010: Modeling the Mudslide Aftermath of the 2007 Southern California Wildfires. *Natural Hazards*. DOI: 10.1007/s11069-010-9615-5.

67. Ren[+], D, **R. Fu,** L. Leslie, D. Karoly, J. Chen, and C. R. Wilson, 2010: A new ice sheet model validated by remote sensing of the Greenland ice sheet. *Central European Journal of Geosciences*, DOI: 10.2478/v10085-010-0012-9.

68. Wang, H.+, **R. Fu**, A. Kumar, W. H. Li, 2010: Intensification of Summer Rainfall Variability in the Southeastern United States during Recent Decades. *J. of Hydrometeorology,* 11, No. 4. 1008–1019.

69. Zhao, C., Y. Wang, Q. Yang, **R. Fu**, D. Cunnold, and Y. Choi, 2010: Impact of East Asian summer monsoon on air quality over China: The view from space, *J. Geophys. Res*., 115, D09301, doi:10.1029/2009JD012745, 2010.

2009

70. Schubert, S, D. Gutzler, H. L. Wang, A. Dai, T. Delworth, C. Deser, K. Findell, **R. Fu**, W. Higgins, M. Hoerling, B. Kirtman, R. Koster, A. Kumar, D. Legler, D. Lettenmaier, B. Lyon[1] V. Magana, K. S. Mo, S. Nigam, P. Pegion, A. Phillips, R. Pulwarty, D. Rind, A. Ruiz-Barradas, J. Schemm, R. Seager, R. Stewart, M. Suarez, J. Syktus, M.F. Ting, C.Z. Wang, S. Weaver, N. Zeng, 2009: A USCLIVAR Project to Assess and Compare the Responses of Global Climate Models to Drought-Related SST Forcing Patterns: Overview and Results*, J. Climat*e, 22, 5251-5272.

71. Zhang Y.*, **R. Fu**, H. Yu, Y. Qian, R. Dickinson, M. A. F. Silva Dias, P. L. da Silva Dias, K. Fernandes, 2009: Impact of biomass burning aerosol on the monsoon circulation transition over Amazonia, *Geophys. Res. Lett*., 36, L10814, doi:10.1029/2009GL037180.

72.Negrón Juárez[+], R. I., W.H. Li, **R. Fu**, K. Fernandes: 2009: Comparison of precipitation datasets over the tropical South American and African Continents. *J. Hydrometeorology*, 10, 289-299. DOI: 10.1175/2008JHM1023.1.

73.Wright, J. S.*, **R. Fu**, A. Heymsfield, 2009: A statistical analysis of the influence of deep convection on water vapor variability in the tropical upper troposphere, *Atmos. Chem. Phys*. 9, 5847-5864.

2008

74.Ren, D+. D., J. Wang, **R. Fu**, D. J. Karoly, Y. Hong, L. M. Leslie, C. B. Fu, G. Huang 2009: Wenchuan Earthquake 2008 and the Subsequent Mudslide-Caused Ecosystem Degradation, *Geophy. Res. Lett.*, 36, L05401, doi:10.1029/2008GL036702.

75.Zhang, Y*, **R. Fu**, H. B. Yu, R. E. Dickinson, R. Negron Juarez, M. Chin, H. Wang, 2008: A Regional Climate Model Study of How Biomass Burning Aerosol Impacts Land-Atmosphere Interactions over the Amazon, *J. Geophy. Res*.- Special Issue for Yoram J. Kaufman Symposium on Aerosols, Clouds, and Climate. 113, D14S15, doi:10.1029/2007JD009449.

76.Fernandes, K*., **R. Fu**, and A. K. Betts 2008, How well does the ERA40 surface water budget compare to observations in the Amazon River basin?, *J. Geophys. Res*., 113, D11117, doi:10.1029/2007JD009220.

77.Li, W.H+., **R. Fu,** R. R. I. M Negrón Juárez, and K. Fernandes, 2008: Cause of recent changes in rainfall variability and implications to future climate in the Amazon region. *Phil. Trans. R. Soc. B (Invited),* doi:10.1098/rstb.2007.0022.

78.Wang, H[+], **R. Fu**, J. K. Schemm, W. T. Liu, W. Q. Tang, 2008: Prediction of South American low-level jet using QuikSCAT ocean surface wind, *the International Journal of Remote Sensing*, 29, 21, 6117-6127.

79.Negrón Juárez[+], R.I., **R. Fu,** R. B. Myneni, M. Goulden, S. Bernardes, H.L. Gao, 2008: An empirical approach to retrieve monthly evapotranspiration over Amazonia, *International Journal of Remote Sensing*, 29, 24, 7045-7063.

80.Li, Y. D., Y. Wang, Y. Song, L. Hu, S. T. Gao, **R. Fu**, 2008: Characteristics of summer mobile mesoscale convective system initiated from Tibetan Plateau, Part I: origin, track, development and precipitation*, J. Appl. Meteoro. & Climatology*. 47, 2679-2695.

2007

81.Han, W.H., P. J. Webster, J. L. Lin, W. T. Liu, **R. Fu**, 2007: Dynamics of intraseasonal sea level and thermocline variability in the equatorial Atlantic during 2002-2003. *J. Phys. Oceanography*, 38, 945-967.

82.**Fu, R**., L. Hu, G. J. Gu, and Y. D. Li, 2007: Comparing the summer synoptic waves between South China and Yantze River area using TRMM rainrate data. *Science in*

*China Press-D, Earth Scienc*e, 37, No. 9, 1-8.

83.Gao, H.L.+, **R. Fu**., R. E. Dickinson, K. Fernades, 2006: A Practical Method for Retrieving Land Surface Temperature from AMSR-E over Amazon Forest, *IEEE Trans. Geosci. Remote Sens.,* 45, No. 12, December, 2007.

84.Yu, H*. B., **R. Fu**, R.E. Dickinson, Y. Zhang, M. Chen, and H. Wang, 2007: Dynamical and Thermodynamic Controls on Smoke-Cloud Interactions over the Amazon. *Remote Sens. Envir.,* 111, 435-449.

85.Negrón Juárez, R. I, M*. G. Hodnett, **R. Fu,** M. L. Goulden, C. von Randow, 2007: Control of Dry Season Evapotranspiration over the Amazonian Forest as inferred from observations at a Southern Amazon Forest site, *J. Climate*, 20, 2827-2839.

86.Myneni, R. B., W. Yang, R. R. Nemani, A. R. Huete, R. E. Dickinson, Y. Knyazikhin, K. Didan, **R. Fu**, R. Negron Juarez, S. Saatchi, H. Hashimoto, K. Ichii, N. V. Shabanov, B. Tan, P. Ratana, J. L. Privette, J. T. Morisette, E. F. Vermote, D. P. Roy, R. E. Wolfe, M. A. Friedl, S. W. Running, P. Votava, N. Z. Saleous, S. Devadiga, Y. Su, V. V. Salomonson, 2007: Large Seasonal Swings in Leaf Area of Amazon Rainforests, *PNAS*, 104 (12), Mar 20, 2007.

87.Li, W+., R. E. Dickinson, **R. Fu,** G. Niu, Z. Yang, and J. G. Canadell, 2007: Future precipitation changes and their implications for tropical peatlands, *Geophys. Res. Lett.,* 34, L01403, doi:10.1029/2006GL028364.

2006

88.Wang, H.+, and **R. Fu**, 2006: Variability of the Atlantic ITCZ associated with Amazon rainfall and convective coupled Kelvin wave. *J. Climate*, 20, 1188–1201.

89.Liebmann, B**., R. Fu**, Camargo, A. Seth, J. Marengo, Carvalho, Allured, C. Vera, 2006: Onset and End of the Rainy Season in South America in Observations and the ECHAM 4.5 Atmospheric General Circulation Model, *J. Climate*, 20, 2037–2050.

90.Li, Y. D., Y. Wang, S. T. Gao and **R. Fu**, 2006: A case study of three-dimensional structure of frontal induced rainfall using TRMM/PR data. *Chinese J. Atmo. Sci*., In press.

91.**Fu, R**, Y. L. Hu, J. S. Wright, J. H. Jiang, R. E. Dickinson, M. X. Chen*, M. Filipiak, W. G. Read, J. W. Waters, D. L. Wu, 2006: Convective transport over the Tibetan Plateau - A short-circuit of water vapor and polluted air to the global stratosphere. *PNAS*, Apr. 11, 2006.

92.Petersen, W. A., **R. Fu**, M.X. Chen, and R. Blakslee, 2006: Intraseasonal Forcing of Convection and Lightning Activity in the Southern Amazon as Function of Cross-Equatorial Flow, *J. Climate*, 19, 3180-3196.

93.Li, W. H.+, **R. Fu**, R. E. Dickinson, 2006: Rainfall and its seasonality over the Amazon in the 21st century as assessed by the coupled models for the IPCC AR4, *J. Geophys. Res.*, 111, D02111, doi:10.1029/2005JD006355.

94.Li, W.H.* and **R. Fu**, 2006: Influence of Cold Air Intrusions on the Wet Season Onset over Amazonia, *J. Climate*, 19, pages 257-275.

2005

95.Liu, Y. Q*, **R. Fu**, and R. E. Dickinson, 2005: Smoke aerosols altering South American monsoon, *Bull. Amer. Meteor. Sci*., August 2005, 1062-1063.

2004

96.Wang, H.*, and **R. Fu**, 2004: Influence of cross-Andes flow on the South American low-level jets, *J. Climate*, 17, 1247-1262.

97.Li, W.H.* and **R. Fu**, 2004: Transition of the large-scale atmosphere and land surface conditions from dry to wet season over Amazon. *J. Climate*, 17, 2637-2651.

98.**Fu, R.,** and W.H. Li, 2004: Influence of land surface on transition from dry to wet season over the Amazon*, J. Theor. Appl. Clim*., 78, 123, 97-110. (invited).

99.Gash, J.H.C, Huntingford, C., Marengo, J.A., Betts, R.A., Cox, P.M., Fisch, G., **Fu, R**., Gandu, A.W., Harris, P.P., Machado, L.A.T., von Randow, C. and Silva Dias, M.A. 2004: Amazonian Climate: Results and future research, *J. Theor. Appl. Clim*., 78, 123, 187-193 (invited).

2002

100.Nogues-Paegle, J. C. Mechoso, **R. Fu**, and et al., 2002: Progress in Pan American CLIVAR research: understanding the South American monsoon, *Meteorologica*., 27, 3-32 (invited).

101.Wang, H.+, and **R. Fu**, 2002: Cross-equatorial flow and seasonal cycle of precipitation over South America. *J. Climate*, 15, 1591-1608.

2001

102.Fu, R., R. E. Dickinson, M. X. Chen, and H. Wang, 2001: How do tropical sea surface temperatures influence the seasonal distribution of precipitation in the equatorial Amazon, *J. Climate.* 14, 4003-4026.

2000

103.Wang, H.+, and **R. Fu**, 2000: Winter monthly mean atmospheric anomalies over the North Pacific and North America associated with El Niños SSTs. *J. Climate*, 13, 3435-3447.

104.McCormack, J.*, **R. Fu**, and W. B. Read, 2000: The impact of tropical deep convection on the upper tropospheric water vapor based on UARS MLS measurements. *Geophys. Res. Lett*., 27, 525-528.

105. Wang, H.+, and R. Fu, 2000: Influence of ENSO SST anomalies and water storm-tracks on the interannual variability of the upper tropospheric water vapor over the Northern Hemisphere extratropics. *J. Climate*, 13, 59-73.

1999

106. **Fu, R**., B. Zhu, R. E. Dickinson, 1999: How does the atmosphere and land surface influence seasonal changes of convection in the tropical Amazon? *J. Climate*, 12, 1306-1321.

1997

107. **Fu, R**., R.E. Dickinson & B. Newkirk*, 1997: Response of the upper troposphere humidity and moisture transport to changes of tropical convection. A comparison between observations and a GCM over an ENSO cycle. *Geophy. Res. Lett,* 24, 2371-2374.

1996

108. **Fu, R.,** W. T. Liu and R.E. Dickinson, 1996: Response of tropical clouds to the interannual variation of sea surface temperature. *J. Climate*, 9, 616-634.

1995

109. Soden, B.J. and R. Fu, 1995: A satellite analysis of deep convection, upper troposphere humidity and the greenhouse effect. *J. Climate*, 8, 2333-2351.

1994

110. **Fu, R.,** A.D. Del Genio, and W.B. Rossow, 1994: Deep convection, vertical thermodynamic structure, and surface conditions in the tropical Pacific. *J. Climate*. 7, 1092-1108.

1993

111. **Fu, R.,** W.T. Liu, A.D. Del Genio, and W.B. Rossow, 1993: Comments on 'A Thermostat in the Tropics?′ *Nature*, 361, 412.

1992

112. **Fu, R.,** A.D. Del Genio, W.B. Rossow, and W.T. Liu, 1992: Cirrus-cloud thermostat for tropical sea-surface temperatures tested by using satellite data. *Nature*, 358, 394-397.

1990

113. **Fu, R**., A.D. Del Genio, and W.B. Rossow, 1990: Behavior of Deep Convective Clouds in the Tropical Pacific Deduced from ISCCP Radiances, *J. Climate*, 3, 1129-1152.

Book (refereed documentation):

113. Co-author, 2000: Chapter 3 of SPARC assessment of upper troposphere and stratosphere water vapor, Edited by Kley. D. J.M. Russell III and C. Phillips, WCRP-113, WMO/TD – No. 1043.

114. Nobre, C., J. A. Marengo, G. Poveda, **R. Fu**: 2009: Characteristics of Amazonian Climate: Main Features, Amazonia and Global Change, American Geophysical Union Press.

115.**Fu, R.**, Paola A. Arias, and Hui Wang. "The Connection Between the North and South American Monsoons." *The Monsoons and Climate Change*. Springer International Publishing, 2016. 187-206 (10.1007/978-3-319-21650-8_9)

116. Marengo, J., L., Alves, da Rocha, J. C. Espinoza, **R. Fu**, J. C. Jimenez, J. Schöngart, 2020: Chapter 19: Long-term variability, extremes and changes in temperature and hydrometeorology, Working Group 8 Climate Change in the Amazon: Tendencies, Impacts and Ecological Consequences. Submitted.

Non-refereed publications:

1. Russell, J. et al. 2019: Subseasonal-to-Seasonal-to Decadal (S2S2D): A pathway to improved Prediction, The Climate Working Group, National Oceanic and Atmospheric Administration (NOAA) Science Advisory Board, December 12, 2019, https://sab.noaa.gov/sites/SAB/Meetings/2019_Documents/Dec_Meeting/SAB_Mtg_Dec19_CWG_S2S2D%20White%20Paper%20V4.1%202019-1212.draft.12162019.pdf?ver=2019-12-16-141411-713

2. Fu., R., A. Erfanian, N. Fernando, S. Chakraborty, B. Pu, 2018: A hybrid dynamic-statistical approach to link predictive understanding to improve seasonal predictability of rainfall anomalies at the regional scale. Science and Technology Infusion Climate Bulletin, NOAA's National Weather Service, 43rd NOAA Annual Climate Diagnostic and Prediction Workshop, October 23-25, 2018.

3. Fu, R., B. Pu, R. E. Dickinson, N. Fernando, 2014: Mechanism Behind the Spring to Summer Drought Memory and Its Potential for Improving the Predictability of Summer Drought over the US Great Plains, Science and Technology Infusion Climate Bulletin, NOAA's National Weather Service, 39th NOAA Annual Climate Diagnostic and Prediction Workshop, October 20-23, 2014.

4.Arias*, P. **R. Fu**, K. S. Mo: 2011: Decadal variability of the North American monsoon duration and its potential causes, NOAA Climate Prediction S&T Digest, December. 2011.

5. Fu, R., M. Chen, H. Wang, W. T. Liu and W. Tang: 2001: Influences of Amazon rainfall on the atmospheric circulation over the North Atlantic detected by QuikSCAT and TRMM, Extended Abstract, Report of the first workshop of Atlantic CLIVAR Program.

6.Wang+, H., **R. Fu,** W.Q. Tan and W. T. Liu: 2004: Influence of cross-Andes flow on the SALLJs and application of real-time scatterometer observations to forecast the SALLJs. CLIVAR Exchanges, Contribution to Exchange No. 29, March 2004.

7. Andronova, N.G., S. Sherwood, **R. Fu,** I. Folkins, K. Rosenlof, M. Joshi, A. Caboussat, and A. Stenke, 2007: A note on an AGU spring meeting discussion of the role of atmospheric water vapor in climate and atmospheric composition. SPARCE Newsletter, No. 28, January 2007.

Invited Presentations and Seminars: Total: 140

2020

1. Invited presentation: Influence of vegetation on rainy season onset and its predictability, A075: Atmospheric Sciences New Fellows Session I, 2020 AGU Fall Meeting (Virtual), December 9th, 2020.
2. Invited presentation: Statistical seasonal prediction of winter precipitation, California Department of Water Resources Winter Outlook Workshop, Nov. 3-5, 2020 (Virtual).
3. Honorary speaker: Asian Monsoon Climate Change special session, AOGS, June 29-July 3rd, 2020, HongCheon, Korea (Delayed due to COVID).
4. Invited Seminar: A hybrid dynamic-statistical approach to improve seasonal prediction of rainfall anomalies at the regional scale, NOAA Climate Prediction Center Climate Test Bed Seminar Series, February 27, 2020.
5. Invited presentation: Improving predictive understanding of the dry spell and droughts over u.s. great plains through a machine learning approach, NOAA Drought Task Force, January 24th, 2020.

2019:

6. Invited presentation: Update on statistical seasonal prediction of winter precipitation anomalies. California Department of Water Resources Winter Outlook Workshop, Scripps Institute of Oceanography, November 6th-8th. 2019. La Jolla, California.
7. Invited Lecture**:** Connections between South and North American monsoons, Advanced School and Workshop on American Monsoons Program, Sao Paulo, Brazil, August 19-24, 2019.
8. Invited Talk: Multiscale interactions in determining the variability and extremes of the American monsoons in a changing climate, Session JM03e – Advances and Frontier Challenges in Global Monsoon Studies: Dynamics, Convection and Interaction with Hydrological and Land Surface Processes (IAMAS, IAHS), Montréal, Québec, Canada, July 10th, 2019.
9. Seminar: Interaction between Aerosols and Mesoscale Convective Lifecycle Inferred from Satellite Observations, AOS 270 Seminar series, Department of Atmospheric and Oceanic Sciences, UCLA, June 5th, 2019.
10. Invited presentation: Prototype statistical seasonal prediction to support California DWR decision, DWR S2S Workshop, San Diego, May 22st – 25nd, 2019.
11. Seminar: Ecosystem regulated rainy season onset and drought variability, Global Water Initiative, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia, April 11th, 2019.
12. Invited Talk: Multiscale interactions in determining the hydrological extremes in the American monsoon regions, Session 1: Monsoons of the Americas: Variability and predictability of extreme events, Tropical Cyclones and Extreme Monsoon Precipitation: Prediction, Impacts, and Communication Conference, 99th Annual Meeting of AMS, January 8, 2019**.**

2018:

13. Invited presentation: Prototype statistical seasonal prediction for California/Nevada winter rainfall precipitation. California Department of Water Resources Winter Outlook Workshop, Scripps Institute of Oceanography, October 31st-November 2nd. 2018. La Jolla, California.

14. Seminar: How do rainforests and biomass burning aerosols affect rainy season onsets over tropical continents? Colloquium series, Department of Earth and Planetary Sciences, Harvard University, October 29th, 2018, Boston, Massachusetts.
15. Seminar: *Ecosystem regulated rainy season onset and drought variability*, Seminar series, Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana-Champaign, October 26, 2018. Urbana-Champaign, Illinois.
16. Invited Presentation: *A hybrid dynamic-statistical approach to link predictive understanding to improve seasonal prediction of rainfall anomalies at the regional scale*, the 43rd Annual NOAA Climate Diagnostic and Prediction Workshop. Santa Barbara, California, October 23rd, 2018
17. Keynote: Climate change and California drought, the 11th Los Angeles Environmental Forum, August 10th, 2018, Los Angeles, California.
18. Invited presentation: The influence of aerosols versus meteorological conditions on mesoscale convection and extreme rainfall over tropical continents, The Robert Dickinson Symposium on Earth System Modeling, Past, Present and Future, May 14th, 2018, University of Texas at Austin, Austin, Texas.
19. Invited presentation: Vegetation induced rainfall variability and its implication for future earth system models, The future of earth system modeling: biosphere and land surfaces, March 26-28, 2018. California Institute of Technology, Pasadena, California.
20. Science Plenary Presentation: Influence of the carbon cycle on rainfall seasonality and predictability, OCO-2 Science Team Meeting, March 19-21, 2018. Caltech, Pasadena, California.
21. Invited presentation: Ecosystem regulated drought, Carbon Club, Jet Propulsion Laboratory, California Institute of Technology, February 1st, 2018.

2017:

22. Keynote: A seamless approach to connecting science to decision, Chinese Oceanic and Atmospheric Association Southern California Fall Workshop, November 4th, 2017.
23. Seminar: Role of vegetation in determining drought and its predictability, Berkeley Atmospheric Science Center, October 18th, 2017.
24. Director Seminar: Role of vegetation in determining drought and its predictability, Institute of Geographic of Science and Natural Resources Research, Chinese Academic of Science, October 11th, 2017.
25. Invited presentation: Can tropical forests make their own rainy season? Earth Science Section, Jet Propulsion Laboratory, California Institute of Technology, August 13th, 2017.

2016:

26. Keynote: *Role of Vegetation in Determining Drought Variability and Predictability, II Simposio de Hidoclimatologia, Universidad De Antioquia, Medellin, Colombia, November 24, 2016.*

27.Seminar, *Role of Vegetation in Determining Drought Variability and Predictability?* Department of Global Ecology, Carnegie Institute of Science, Stanford, October 18th, 2016.
28.Keynote: *Improving Drought Prediction over US Great Plains*, *Eric Wood Symposium, Princeton University, June 2-3, 2016*.
29.Invited: *What can we learn from the past to improve future drought projection?* Center for Integrated Earth System Sciences Workshop, April 21st, 2016, Austin, TX.
30.Invited: *Using SMAP data to improve drought/flood risk early warning in supporting Texas water resource decision*, Quarterly SMAP Early Adopter Telecon, 14 April 2016.
31.Invited: *Using SMAP data to improve drought/flood risk early warning in supporting Texas water resource decision*, *The 4th NASA SMAP Applications Workshop and Tutorial*, April 4th-5th, 2016, Capital Complex, Austin, Texas.
32.Keynote: Predicting the onset of the rainy season in southern tropical South America, *Workshop on Tropical Deforestation and Its Effect on Climate and Agriculture, Belo Horizonte, February 18-19, 2016.*

2015:

33.Keynote: Improving prediction/projection of drought and flood risk to reduce vulnerability of regional water resource over the US Great Plains, Joint Institute for Regional Earth System Science and Engineering, Open House, November 12th, 2015, University of California, Los Angles.
34.Seminar: Role of vegetation in determining rainfall/climate variability over the American continents and adjacent oceans, 2015 Earth Science Seminars, the JPL Science Visiting Colloquia and Seminars, November 11th, 2015.
35.Seminar: Once and future Texas drought, Undergraduate Geology Society, Jackson School of Geosciences, September 30th 2015.
36.Seminar: A Seamless Approach for Improving Prediction and Projection of Drought and Flood Risk over the US Great Plains, Climate Forum, Department of Geological Sciences, September 21st, 2015.
37.Invited Presentation: A seamless approach to reduce vulnerability of Water resources to climate change over the US Southern Great Plains, Congress 2015 Water Planet, Water Crises, Meeting the world's Water-food-energy needs sustainably, Institute for Sustainability, Energy and Environment, University of Illinois, Urbana-Champaign, September 14-16, 2015.
38. Seminar: Understand and Improve the drought prediction over the US Great Plains, Frontier of Global Change Research Forum, Beijing Norman University, July 2nd, 2015.
39. Seminar: Understand predictability of the rainfall and droughts beyond the influence of ocean, Institute of Earth Environment, Chinese Academy of Sciences, XiAn, China, June 23rd, 2015.
40. Seminar: Understand predictability of the rainfall and droughts beyond the influence of ocean, Department of Atmospheric and Oceanic Sciences, UCLA, April 16th, 2015.
41. Invited Presentation: Predicting summer drought over Texas, Texas State drought preparedness council, April 9th, 2015.
42. Seminar: Coupling between vegetation, aerosol, clouds in determining drought, variability and Predictability over Amazonia and US Great Plains, Climate Change

Science Institute, Oak Ridge National Laboratory, Knoxville, Tennessee, February 11, 2015.

43. Seminar: Understand and Improve the drought prediction over the US Great Plains, Department of Civil & Environmental Engineering, University of Tennessee, Knoxville, Tennessee, February 13, 2015.

2014*:*

44. Invited Talk: A Process-Based Drought Early Warning Indicator for Supporting State Drought Mitigation Decision, Session GC54B-01 AGU Fall Conference, San Francisco, CA, December 19, 2014.
45. Invited Talk: Could ecosystem change over Amazonia influence climate over North America? Session B54C, AGU 2014 Fall Conference, San Francisco, December 15-19, 2014.
46. Seminar: Coupling between vegetation, aerosol, clouds in determining drought memory, variability and potential for drought early warning over Amazonia and US Great Plains, Tropospheric Sounding, Assimilation, and Modeling (TSAM), Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California, November 18th, 2014.
47. Seminar: Role of Amazonia rainforests in regulating climate variability and change over the Pacific-American-Atlantic Sector, Department of Atmospheric and Oceanic Sciences, UCLA, November 19th, 2014.
48. Seminar: Mechanism behind the spring to summer drought memory and its impact on predictability of the summer drought over US Great Plains, Division of Geological and Planetary Seminar, California Institute of Technology, Pasadena, California, November 18th, 2014.
49. Invited Talk: Understanding the causes of the biases that determine the onset of the rainy season in Amazonia in climate models using GoAmazon-CHUVA measurements. FAPESP-U.S. Joint Research on the Amazon Rain Forest, Wilson Center, Washington, D.C. October 28, 2014.
50. Invited Talk: Precipitation/Land-Atmosphere interactions, Green Ocean Amazon, Joint Principal Investigators Meeting, October 29, 2014, Woodrow Wilson International Center for Scholars, Washington, DC 20004.
51. Invited talk: *Relationship between aerosol and convective dynamic structure through convective life cycle deduced from satellite observations,* 2014 Nanjing University of Information Science and Technology, High-level Forum on Land Surface Processes and climate, Nanjing, China, September 27th, 2014.
52. Invited talk: The role of land-atmosphere coupling in determining persistent drought over US Great Plains, 2014 Nanjing University of Information Science and Technology, High-level Forum on Land Surface Processes and climate, Nanjing, China, September 26, 2014.
53. Invited seminar: An overlooked source of uncertainty in drought prediction/projection over US Great Plains, Center for Ocean-Land-Atmospheric Studies, George Mason University, September 10, 2014.

54. Invited Webnar: Explore mechanisms behind the spring to summer drought memory and their application for early warning of summer drought over US Southern Plains, NOAA Modeling, Analysis and Prediction Program Webnar series, May 30th, 2014.
55. Invited seminar: Relationship between aerosol and convective dynamic structure through convective life cycle deduced from satellite observations, NASA Goddard Space Flight Center Atmospheres Seminar Series, May 15th, 2014.
56. Invited talk: Increased dry season length over southern Amazonia in recent decades and its implication for future climate projection, The 2nd International Seminar on large-scale sustainable agriculture, March 12-13, 2014, Vicosa-Minas Gerais, Brazil.

2013

57. Invited talk: Influence of climate variability over the Tibetan Plateau on water vapor transport to the lower stratosphere, AGU 2013 Fall Conference, GC32B-1 December 11, 2013, San Francisco, California.
58. Invited seminar: Climate-vegetation-human, Institute of Geographic Sciences and Natural Resources Research, Chinese Academic of Sciences, August 2nd, 2013.
59. Keynote: Influence of climate variability and aerosols on convective transport to the UT/LS over Asian Monsoon/Tibetan region, International Workshop on Atmospheric Composition and the Asian Summer Monsoon (ACAM), 9-12 June 2013, Kathmandu, Nepal.
60. Invited seminar : Land-atmosphere-ocean interaction over the Pacific-America-Atlantic Sector, *IPRC Department of Meteorology,* University of Hawaii at Manoa, Honolulu USA. May, 30th, 2013.
61. Invited talk: Decadal variability of the Pan American monsoon season lengths, GC-21A-01, 2013 AGU Meetings of Americas, Cancun, Mexico, May 14-16, 2013.
62. Invited talk: Amazon rainforest and Rainfall in a changing climate, Undergraduate Geological Club, the Jackson School of Geosciences, The University of Texas at Austin. April 11, 2013.
63. Invited seminar: Influence of climate change over Tibetan Plateau on troposphere-to-stratosphere transport of water vapor and pollutants. Large-scale atmosphere geofluid dynamics laboratory, Institute of Atmospheric Physics, Chinese Academy of Science. Beijing, China, April 3rd, 2013.
64. Invited presentation: Influence of climate change over Tibetan Plateau on troposphere-to-stratosphere transport of water vapor and pollutants. Natural Science Foundation of China Forum on "Tibetan Plateau-land atmospheric interaction and its global impacts., Beijing, China, April 2st., 2013.
65. Invited presentation: Assessing future changes of drought and extreme surface temperature over the south-central United State, Texas Water Development Board, Surface Water Group. February 20, 2013.
66. Invited presentation: *Uncertainty in modeling Amazon rainforest die-back and potential role of mesoscale convection, International Workshop on* understanding and representing atmospheric convection across scales, January 28-30, 2013, Devon, UK.

67. Invited presentation: Assessing future changes of drought and extreme surface temperature over the south-central United State, NOAA Modeling, Analysis and Prediction Program Webnar, January 14, 2013.

2012

68. Invited presentation: Evaluating Climate Projection for Drought and Extreme Surface Temperatures over South-Central US, Water Forum, Austin, Texas, October, 22, 2012.
69. Invited presentation: Predictability of Severe to Exceptional Droughts in Texas, NOAA Modeling, Analysis and Prediction Program Webnar, April 10, 2012.
70. Invited Seminar: Water cycle in a changing climate, Faculty of Science, China University of Hong Kong, March 22, 2012.

2011

71. Invited talk: Assessing changes of rainfall seasonality over the American monsoon regions, Session GC34B, AGU 2011 Fall Conference, San Francisco, California, December 7, 2011.
72. Seminar: Land-atmosphere-ocean interaction over the Pacific-America-Atlantic Sector, Frontier in Earth System Science Seminar Series, Beijing Normal University, November, 16, 2011.
73. Seminar: Convective and dynamic transport over the Tibetan Plateau and its potential influence on regional and global stratosphere composition and climate, Institute of Tibetan Plateau Research, Chinese Academic of Sciences, Beijing, China, November 11, 2011.
74. Seminar: *Coupling between terrestrial ecosystem and water cycle in the tropics and its role in determining climate variability*, School of Oceanography, University of Washington, October 25, 2011.
75. Seminar: What caused changes of Summary Rainfall Variability over the Pan-American Regions in recent decades? Institute of Atmospheric Sciences, Chinese Academic of Sciences, May 26, 2011
76. Invited talk: Impact of Decadal Climate Variability and Anthropogenic Forced Change on Regional Seasonal Variability, Regional Earth System Modeling and Analysis Symposium, Beijing, China, May 18-21, 2011.
77. Invited Seminar: Changes of Summary Rainfall Variability over the Pan-American Regions in recent decades and their connections to change of the North Atlantic Subtropical High, The International Research Institute for Climate and Society, The Earth Institute at Columbia University, April 8, 2011.

2010

78. Seminar: Change of Summer Rainfall Variability over South United States and North Mexico in Recent Decades, Department of Earth System Science, School of Physical Sciences, University of California, Irvine, December 1, 2010
79. Seminar: Change of Summer Rainfall Variability over South United States and North Mexico in Recent Decades, Environmental Science and Engineering Graduate Seminar, University of Texas, San Antonio, October 29, 2010, San Antionio, Texas;

80. Invited Lecture series: Land-atmospheric Interaction, Beijing Normal University, Beijing, China, September 15-17, 2010.
81. The fifth workshop on "Surface-Troposphere-Stratosphere Interaction (STSI) over the Tibetan Plateau and its impacts on global and regional climate change", the Chinese Academy of Meteorological Sciences (CMAS), Relative role of Tibetan Plateau, Asian Monsoon and the tropics in moistening of the global stratosphere during summer season, Beijing, China, September 13, 2010.
82. American Geophysical Union, Meeting of Americas, Session A43E, Changes of Surface Radiation and Cloudiness over the Amazon: Cause and Implication to Tropical Ecosystem, Foz do Iguacu, August 12, 2010.
83. National Center for Atmospheric Research, Advanced Study Program Summer Colloquium "Asia in the 21st Century", Energy and Water cycle over Tibetan Plateau and It's impact on regional and global climate, August 4, 2010, Boulder, Colorado.
84. International Workshop on ASM-STE, Relative role of Tibetan Plateau and tropics in moistening of the global stratosphere during summer season, Lhasa, China, July 22, 2010
85. Keynote speaker, The 2nd CAS-CEOP International Workshop on Energy and Water Cycle Over the Tibetan Plateau and High-elevations, Tibetan Plateau, A Source of Water Vapor for Global Stratosphere, Lhasa, China, July 21, 2010
86. The Large-scale Fluid Dynamics Laboratory, the Institute of Atmospheric Physics, Chinese Academy of Science, Influence of the Tibetan Plateau on global stratospheric water vapor and climate, Beijing, China, July 14, 2010.
87. Landscapes on the Edge: New Horizons for Research on Earth's Surface (NRC 2010): a synopsis, NSF Workshop "Landscapes in the "Anthropocene": Exploring the Human Connections", the University of Oregon, March 4-6, 2010.

2009

88. The University of Texas at Austin, Bureau of Economic Geology Seminar Series, Intensification of Summer Rainfall Variability in the Southeastern United States in Recent Decades, November 20, 2009.
89. The University of Texas at Austin, Department of Geological Sciences, Tech Session: Climate Change: Observations, October 6th., 2009.
90. Invited lecturer, The Beijing Summer School on Atmosphere, Climate and Environment Climate Dynamics and Physics, Peking University, Beijing, China, August 10-19, 2009.
91. Keynote speaker, "Energy and Water Cycle over the Tibetan Plateau and the Related Area", The 5th International Symposium on Tibetan Plateau / The 24th Himalaya-Karakorum-Tibet Workshop, Beijing, China, August, 11 – 14, 2009.
92. NASA Goddard Space Flight Center, Laboratory for Atmospheres, Earth Sciences Division, Detecting, Understanding and Projecting climate over tropical land, May 21, 2009.
93. Texas A&M, the Department of Atmospheric Sciences, Detecting, Understanding and Projecting climate over tropical land, April 7, 2009.

2008

94. The University of Texas at Austin, Jackson School of Geosciences, Latin American Forum IV, Climate Change over the Amazon, Austin, Texas, December 8-9, 2008.
95. ISCCP 25th Anniversary Symposium, Clouds, Rainforest and Terrestrial Hydrological Cycle in the Tropics, 23-25 July 2008, NASA GISS, New York City

2007

96. Geophysical Fluid Dynamic Laboratory, Princeton University: Understanding the Amazon rainfall from seasonal to decadal scales. Nov. 29, 2007.
97. The 7th Atmospheric Science Symposium: Future climate of the Amazon. Berkeley Atmospheric Sciences Center, The University of California, Berkeley, Oct. 4-5, 2007.
98. AGU 2007 Joint Assembly: Relative roles of land/vegetation, oceans, mountains and biomass burning in determining climate variabilities of the South American monsoon onset, Acapulco, Mexico, May 21-25, 2007.
99. University of Texas at Austin, Institute for Geophysics: Tropical Vegetation-Climate Interaction in a Changing Global Climate, Austin, Texas, May 10, 2007.
100. University of Texas at Austin, Department of Geosciences: Convective Transport in the Asian Monsoon/Tibetan Region and its Influence on Global Stratosphere Water Vapor and Climate, Austin, Texas, May 10, 2007.
101. WCRP/CLIVAR-GEWEX Asian Monsoon Year-2008 International Workshop: Role of Convection over Asian Monsoon/Tibetan Region in Hydration of the Global Stratosphere, Beijing, China, May 23-25, 2007.

2006

102. Royal Caribbean Cruise, Explore of the Sea, Amazon deforestation and its climate impact, December, 30, 2006.
103. AGU 2006 Fall Conference: What has enhanced the interannual variation of seasonal cycle in the Amazon in recent decades? San Francisco, California, December 10-15, 2006.
104. NCAR TIIME Water-Biogeochemical Cycle Retreat: Role of water-biogeochemical cycle interaction in determining climate change, Keynote speaker, Boulder, Colorado, July 17-22, 2006.
105. Harvard University, Environmental Science and Engineering, Division of Engineering and Applied Science: Convective transport in the Asian monsoon/Tibetan region and its influence on global stratosphere water vapor, Cambridge, Massachusetts, October 13, 2006.
106. IEEE (Institute of Electrical and Electronics Engineers**)** IGARSS (International Geoscience and Remote Sensing Symposium): Could interannual changes of Amazon rainfall influence the onset of Atlantic Niño? Denver, Colorado, July 31-August 4, 2006.
107. Western Pacific AGU: Influence of biomass burning aerosols on land-atmosphere coupling over the Amazon, Beijing, China, July 24-27, 2006.
108. AGU 2006 Joint Assembly: What are the main pathways for the cross-tropopause transport of water vapor and CO over the Asian monsoon/Tibetan Plateau? Baltimore, Maryland, May 23-26, 2006.

109. University of New Hampshire, Center for EOS/Earth Sciences: Influence of biomass burning on surface energy and water budget and the transition of the large-scale atmospheric circulation in South America, April 7, 2006.
110. University of Maryland, Department of Atmospheric and Oceanic Sciences: What controls the cross-tropopause transport of water vapor and CO over the Asian monsoon/Tibetan Plateau? - A preliminary investigation based on Aura and other A-train observations. February 9, 2006.

2005

111. Florida State University, Department of Meteorology: What controls rainfall seasonality and its interannual variations over South America, Tallahassee, Florida, October 6, 2005.
112. Chinese Academy of Meteorological Sciences, Workshop on Troposphere-Stratosphere Substance and Energy Exchange over Tibetan Plateau and its Impacts on Global Climate: Convective transport of water vapor and pollutants over Tibet as explored by satellites, Beijing, China, August 5, 2005
113. 2005 IEEE IGARSS: The Influence of South American Rainfall on Climate Variabilities of the Tropical Atlantic Ocean, Seoul, Korea, July 25-29, 2005.
114. China Meteorological Administration, International Seminar on Climate System and Climate Change: Role of land-atmosphere interaction in determining rainfall variability in wet tropical areas, Beijing, China, July 18-29, 2005.
115. Peking University, School of Physics: What control seasonal and interannual rainfall variability over Amazon? July 21, 2005.
116. Duke University Center on Global Change (Keynote speaker): What controls the seasonality of the Amazon rainfall and its interannual variations?- How strong it interacts with land surface? Durham, North Carolina, May 8-10, 2005.

2004

117. 2004 IEEE IGARSS: Observing Ocean-land-atmosphere interaction using scatterometer and other satellite sensors, Alaska, September 20-24, 2004.
118. AMS (American Meteorological Society) 13th. Conference on Interaction of the Sea and Atmosphere: Can continental rainfall influence climate variability over tropical Atlantic Ocean? Portland, Maine, August 9-13, 2004.
119. Joint AOGS-APHW 2004 Conference: Influence of biomass burning on the wet season onset over Amazonia, Toh Tuck Link, Singapore, July 5-9, 2004.

2003

120. VAMOS Panel, 6th. Annual Meeting: Influence of zonal wind over southeastern Pacific on SALLJ and its potential as a predictor of the SALLJ, Miami, Florida, 23-27, April 2003.

2002

121. International Workshop on the Air-Land Interaction in Arid and Semi-Arid Areas and Its Impact on Climate (IWALI), Dunhuang-city Gansu Province, China, August 18-21 2002.

2001

122. Georgia Tech, School of Civil and Environmental Engineer, Atlanta, Georgia, October 5, 2001.
123. Chinese Academy of Sciences, Seminar Series of the Institute of Atmospheric Physics, Beijing, China, September 27, 2001.
124. First International Symposium on Physico-Mathematical Problems Related to Climate Modeling and Prediction, CAS-TWAS-WMO, Beijing, China, September 25-29, 2001.
125. Tropical Atlantic Variability workshop, US CLIVAR (Climate Variability and Predictability Program/Variability) Program, Boulder, Colorado, June 12-14, 2001.
126. Columbia University, Lamont-Doherty Earth Observatory,Atmospheric Science Program Seminar Series, New York, New York, March 30, 2001.

2000

127. Colorado State University, Department of Atmospheric Sciences Seminar Series, Fort Collins, Colorado, October, 24, 2000
128. CLIVAR PACS Principal Investigator Meeting, Keynote Speaker, Potomac, Maryland, September 6-8, 2000.

1998

129. PACS Principal Investigator meeting, Tucson, Arizona, October 6-7, 1998.
130. NASA Goddard Space Flight Center, Laboratory for Atmosphere, Radiation and Climate Branch and the Earth Observing System Data Assimilation Office, Greenbelt, Maryland, October 21, 1998.
131. NASA Goddard Institute for Space Study-Atmosphere Science Program at Columbia University, New York, February 13, 1998.

1997

132. University of Arizona, Institute for the Study of Planet Earth, interdisciplinary “Global change in the Americas” seminar series, April 4, 1997.

1996

133. WMO GEWEX/GvAP Workshop, Geneva, Switzerland, November 14, 1996.
134. NOAA PACS Principal Investigator meeting, Salt Lake City, Utah, September. 19-21, 1996.
135. NOAA/Geophysical Fluid Dynamics Laboratory, Princeton University, Princeton, New Jersey, April 19, 1996.
136. NASA Goddard Institute for Space Study, International Satellite Cloud Climatology Project workshop, New York, April 16, 1996.
137. Columbia University, Lamont-Doherty Earth Observatory, Physical Oceanography seminar, Palisade, New York, February 1, 1996.

1995

138. UCLA, Department of Atmospheric Sciences, Los Angles, California, November 3, 1995.
139. Jet Propulsion Laboratory of California Institute of Technology, Science Division, Physical Oceanography Branch, November 2, 1995, Pasadena, California.
140. University of Illinois, Urbana-Champaigne, Department of Atmospheric Sciences, April 14, 1995.

Research Grants:

Administered

1. **PI:** "Identifying the Changing Moisture Sources Behind the Early Onset and Demise of the Congo Spring Rainy Season" NASA Future Investigators in NASA Earth and Space Science and Technology, 2020-2023, $135, 000.
2. **PI:** "A probabilistic characterization of the interaction between large-scale atmosphere, land surface and fire to enable improvement of drought early warnings over the Great Plains and California, NOAA MAPP, 2020-2023, $584,652.
3. **PI:** The Cross-equatorial Influences of South American Rainfall on the North Atlantic and Adjacent Continents, NSF, 2019 – 2022, 2$678,911.
4. **PI:** Develop a prototype statistical seasonal prediction system for precipitation and river flow for the Upper Colorado River Catchment, California Department of Water Resources. 2019-2020, $90,000.
5. **PI:** Statistical Methods in seasonal forecasting for potential drought prediction, California Department of Water Resources. 2019, $100,000.
6. Co-PI: (PI: Joao Teixeria), From Boundary Layer to Deep Convection: The Multi-Plume Eddy- Diffusivity/Mass-Flux (EDMF) Unified Parameterization, NOAA/NSF, 2019-2022, $1,385,878. (total UCLA/JPL budget)
7. Co-I: (PI: Alex Hall): The future of California drought, fire and forest dieback, LFRP – Collaborative Research and Training Award, 2018-2021, $2,518,436 (total budget).
8. PI: Clarifying the influence of the multiscale coupling between land surface, shallow and deep convection, and large-scale circulation on the predictability of warm season drought over the US Great Plains, NOAA MAPP, Drought Task Force, 2017-2020, $499,781.
9. Co-PI: Sub-Seasonal Prediction with CCSM4, NOAA MAPP, CTB, 2016-2018, $100,175.
10. PI: Improve the Drought Early Warning Indicator over the US Great Plains In Supporting the Nation's Resilience to Extreme Climate Events, NASA Climate Assessment Products and Indicators, 2016-2019, $527,951 ($476,917 to UCLA).
11. *PI:* Using the GoAmazon-CHUVA measurements to understand what causes the biases in the onset of the rainy season in Amazonia in climate models, DOE, 2014-2017,

$786,575, JSG: $609,575.

12. Co-PI: Soil Moisture Characterization for Biogenic Emissions Modeling in Texas, Quality Assurance Project Plan, $174,998. (PI: Elena McDonald-Buller, Chemical Engineering, University of Texas at Austin)
13. Co-I: Absorptive aerosols and clouds: Application of the PNNL-MMF model and analysis of Cloudsat-Calipso, A-train, and Geosynchronous data", NASA ACMAP, 2013-2016, Subcontract to JSG/Rong Fu: $61,260.
14. PI: Rainfall Extremes and Variability over Amazonia: Understanding the Mechanisms and Consequences Using Satellite Observations and CMIP5 Models, NASA Earth System Science Fellowship to Lei Yin, August 2013-July 2016, JSG/RongFu/Lei Yin, $90,000 ($30,000/yr, upto three years or to student receive PhD, whatever comes first).
15. *PI:* Develop a climate indicator in Supporting the Nation's Resilience to "flash" droughts over the US Great Plains, NASA Indicator System Team membership to INCA12, 2013-2015, $ 187,000.
16. Co-PI: Host of UCAR-Applying Climate Expertise Postdoctoral Fellowship Program (PACE). August 2011 - July 2013. $136,000 matching fund from NOAA.
17. PI: Exploring the Impacts of Climate Variations and Land Use on Interannual Changes of CO in the Tropical Tropopause Layer Using Multi-Year Aura and A-Train Measurements, NASA Aura, July 2011 – June 2014, $542,470.
18. PI: Changes in Intraseasonal to Interannual Variability of the Pan American Monsoons Under a Warmer Climate and Their Impacts on Extreme Events as Assessed. by the CMIP5 Models and Observations, NOAA-CPPA, June 2010-May 2013, $ 441,723.
19. Co-PI: Impact of Droughts Related to Climate Change on Water Resources in the High Plains Aquifer, Bureau of Reclamation, 2011-2012, (PI : Bridget Scanlon, $200,000.
20. PI: "Changes of Rainfall Seasonality and Drought Severity over Amazonia and Their Connections to Global Climate Change NSF", September 2009 –August 2012, $513,523.
21. PI: "Pathways for Transport of Fire Generated Tracers to the Tropical Tropopause Layer as Determined by Aura MLS/TES and Other A-Train Measurements Atmospheric composition: Aura science team," ROSES-2007 NRA A.11, February 2009 – March 2012, $416,784.
22. PI: "Water Cycle between Ocean and Land and its Influence on Climate Variability over the South American-Atlantic Regions as Determined by QuikSCAT/SeaWinds Observations" the Ocean Vector Winds Science Team, ROSES-2005 NRA, June 2006 – May 2010, $520,346.
23. PI: "Roles of Land Surface Processes and Large-Scale Atmospheric Circulation in Determining the Transition to Warm Season Precipitation Regime and Summer Drought in the Southeast United States, NOAA Climate Prediction Program for the Americas, April 2006 – March 2009, $180,000.
24. PI: "Statistical characterization of atmospheric water vapor transports using Aura and other measurements in support of Aura model validation and data assimilation." NASA, Aura Science Team, December 2006-February 2010, $618,224. $449.145.00 to UT Austin.

25. PI: “Investigating the Influences of Vegetation, Biomass Burning, clouds on Wet Season Onset over the Amazon Using Terra, Aqua in conjunction with In Situ and Other Satellite Data Sets”, Earth System Science Research Using Data and Products from Terra, Aqua and ACRIM Satellites, NASA, July 2004 –June 2007, $667,700.
26. Co-I:”Dynamics and predictability of rainy season onset and demise for South America in observations and GCM simulations,” NOAA CPPA, 2004-2007, $223,888.
27. PI: “Symposium to Celebrate 40 years of Climate Research. DOE, the Office of Science (BER), 2005 (Grant No DE-FG02-05ER64078), $5,000.
28. PI: “Characterize Mesoscale Convective Complex systems over Tibet Plateau using multiple satellite observations”, the Natural Science Foundation of China, 2005-2007, ¥400,000. Another ¥400,000 matched by Chinese Academy of Science for the same period.
29. PI: “Diagnosis of the Mechanisms that Control the Seasonal Geographic Advancement and Retreat of the Rainy Areas over South America”, Office of Global Program, NOAA, June 2003 – July 2006, $265,106.
30. PI: “Diagnostics of interannual variation of rainfall over South America and its interaction with atmospheric circulation over North Atlantic”, to Division of Climate, Modeling, Analysis and Prediction, NSF, February 2003- January 2005, $345,258.
31. PI: “Investigating the influences of changes in convection types and boundary layer clouds on intraseasonal to interannual variations of precipitation over Amazon and on the tropical upper troposphere water vapor using ESE multi-satellite sensors,” the Global Water and Energy Cycle Research Analysis, Office of Earth Sciences, NASA, 2002 – 2005, $489,000.
32. PI: “Investigating the influence of ocean and land surface vegetation on the seasonal and interannual variations of precipitation over Amazon through use of SeaWinds scatterometer data and atmospheric model simulations”, Ocean Vector Winds Science Team (OVWST) of NASA Mission to Planet Earth and Earth Observing System Science, 2000 – 2005, $582,214.
33. Co-I: “Characteristics and predictability of the extratropical atmospheric response to the ENSO cycle”, Office of Global Programs, NOAA, 2001-2004, $188,272.
34. PI: “What controls the seasonal and interannual variations of precipitation in tropical South America? - A combined observational and climate model study of ocean-atmosphere-land coupling for improving climate prediction”, Office of Global Programs, NOAA, 1998— 2001, $227,249.
35. PI: “Using UARS MLS to investigate the impacts of troposphere convection and planetary-scale and synoptic waves on the lower stratosphere water vapor in the tropics and mid-latitudes”, NASA Mission to Planet Earth Upper Atmosphere Research Satellite Science Investigator Program, 1998-2000, $243,051.
36. PI: “The role of atmosphere-land-ocean coupling in determining clouds, precipitation and water vapor”, NASA Mission To Planet Earth New Investigator Program, 1996—1999, $327,311.
37. PI: "A Career Development Plan with Primary Emphasis on a Process Study of Upper Troposphere Water Vapor in Midlatitude." NSF Early Career Development Program, 1995—1998, $150,000.

38.PI: "Use of Satellite and *In situ* Meteorological Data to Improve the Climate Predictions in the Equatorial and South America Through a Better Understanding of Amazon Convection." Office of Global Programs, NOAA, April 1, 1995—March 31, 1997, $120,000.
39.Co-I: "Land-ocean-atmosphere interaction: mechanisms for the seasonal variations in precipitation over tropical land", NSF, 1998- 2003, $1,126,971.
40.Co-I: "Land-Atmosphere Interactions - A Core Program in Support of Community Climate System Modeling." NSF, January 1, 1995—December 31, 1997, $676,182.

Course Taught:
UCLA:
Graduate Courses:

AOS 219: Statistical analysis and visual explanation of large climate data, Spring 2018 (6 enrollment)
AOS 286: Statistical Prediction and Verification, Spring 2018 (3 enrollment)

Undergraduate course:
AOS 102: Climate Change and Climate Modeling, Spring 2017 (73 enrollment), Winter 2018 (67 enrollment)

Graduate Courses:

1. GEO 391C: Spatial-tempo pattern correlation and visualization of geoscience data, Spring 2014
2. GEO 387C/391C: Climate system physics, Spring 2009, 2010, 2011, 2012, 2013, 2014
3. EAS 8803: Land-atmosphere Interaction, Spring 2006, 2008.
4. EAS 6793: Atmospheric Boundary Layer, Spring 2004, 2005, 2007.
5. EAS 8803B/CEE 6221 Physical Hydrology, Spring 2003.
6. EAS 8803C: Climate Seminar, Fall 2004.
7. EAS 6512: Dynamic Meteorology-II, Spring 2000, 2001, 2002.
8. ATMO 535: Air Sea Interaction, Spring 1999.

Undergraduate Courses:

1. GEO 371C: Spatial-tempo pattern correlation and visualization of geoscience data, Spring 2014
2. UGS 302: Science and Myth of the Climate Change, Spring 2011, 2012
3. GEO 347C/371C: Climate system physics, Spring 2010, 2011, 2013, 2014
4. GEO 302C: Climate: Past, Present and Future, Spring 2010.
5. EAS 4410/8803: Climate and Global Change Fall 2007.
6. EAS 4655/3650: Atmospheric Dynamics, Fall 2006, 2005, 2004, 2003, 2002.
7. EAS 3650: Earth System Physics, Spring 2000, 2001.
8. ATMO 300B: Introduction of Dynamics Meteorology. Fall 1997, 1998.

9. ATMO/GEOL 171: Introductory of Meteorology and Climate, Spring 1996, 1997, 1998.

Graduate Students Advised:

Current PhD students:

1. Sarah R. Worden
2. Santiago Giraldo Cardenas
3. Ying Liu

Current MS student:
Mingxin Qu

Graduated with PhD and their current positions:

1. Kai Zhang (2017), Data Analyist, Chase Bank.
2. Sudip Chakraborty (2016), Postdoctoral researcher, NASA JPL
3. Lei Yin (2015): Apple Inc.
4. Lei Huang (2013): Researcher, NASA JPL.
5. Marilee Roell, (2012): Mission Engineering, NASA Langley Laboratory.
6. Paola Arias (2011): Associate professor (Tenured) and Chair of the Civil Engineering Department, Universidad de Antioquia, Columbia
7. Katia Fernandes (2009): Tenure-track Assistant Professor, University of Arkansas
8. Yan Zhang (2008): Research scientist: NASA Goddard Space Flight Center
9. Jonathan Wright (2006), Associate Professor, Tenured, Tsinghua University.
10. Wenhong Li (2003): Duke University, Associate Professor with Tenure

Graduated with MS:

1.Rachael Isphording, 2017,
2.Adam Bowerman, 2016, Texas Railway Commission
3.Ze Yang (2013), Halliburton
4.Tong Ren (2013): PhD program, Texas A&M
5.Arnaud Monges (2003): Weather Forecast, France.
6.Naysha Morris (2002, AAAS Mass Media Fellowship): Georgia Environmental Protection Agency
7.Bin Zhu (1998): Associate Professor, Oregon State University

Research Scientists and Staff Supervised:

1. Siyu Zhao, January 2020 -
2.Yizhou Zhuang, October 2019 -
3. Amir Erfanian, January 2018 – July 2019.
4. Sudip Chabraborty, June 2016-present
5.Mingxuan Chen, Research Technician IV, December 2015-
6.Dr. Bing Pu, Postdoctorial Fellow, March 2014 – November 2015
7.Dr. Ying Sun, Postdoctoral Fellow, March 2014 – January 2016.

8.Dr.Nelun Fernando, UCAR-PACE postdoctoral research, 2011-2013, Postdoctorial researcher, January 2013-October 2014.
9.Dr. Jung Hyo Chae, Postdoctoral researcher, 2011-2012
10.Dr. Diandong Ren, Research Scientist Associate V, 2008 – 2010.
11.Dr. Nicole Smith-Downey, Postdoctoral Researcher, 2008 – 2010
12.Dr. Wenhong Li: Research Scientist II, 2003 – 2009.
13.Dr. Huilin Gao: Research scientists II, September 2005 – 2007.
14.Dr. Robinsin Juarze: Post-doctoral researcher, August 2005 – 2007.
15.Dr. Hui Wang: Senior research scientists, 1998 - 2006
16.Dr. Yuanlong Hu: Post-doctoral researcher, 2003 –2006
17.Dr. John McCormick: Post-doctoral researcher, 1998-2000
18.Ms. Mingxuan Chen: Research scientist II, 1996 - 2006
19.Ms. Alison Walker: Computer programming consultant, 2004-2006.

Undergraduate Research Advised:

1. Sarah Worden, 2017-2018, research intern
2. Jonathan Weyn-Vanhentenryck (2013-2014), Physics Honor Thesis
3. Adam Bowerman (2010-2012): Geoscience Honor Thesis
4. Bao Wen, 2010 Summer
5. Michael Young (2006, 2007 Georgia Tech Presidential Award)
6. James Blangler (2006)
7. Ausuka Suzuki (2005)
8. Nike Raj (2005)
9. Chad Cross (2004)
10. Melanie Snow (2003)
11. Timothy Atkins (2001)
12. Bryan Henry (2000)

Professional Activities:

National:

1. Editor, J. of Geophysical Research – Atmosphere, December 2020 - November 2023.
2. Chair, Canvassing Committee, Global Environmental Section, American Geophysical Union (AGU), 2019.
3. Chair of the organization committee, Inez Fung Symposium, 99th AMS Annual Meeting, January 8th, 2019.
4. Past-President, Global Environmental Change Section, AGU, January 2017-December 2018.
5. Review Panel: NASA MEaSURE, Nov. 2017
6. DOE, Climate and Environmental Sciences Division, Committee of Visitors, July 19-21, 2016.
7. Convener and Chair: Tyndall Lectures December, 2013, 2014; Schneider Lectures, December 2015, 2016; Bolin lectures: December 2016, 2017; Special Lectures, December 2014, 2015; of the AGU Global Environmental Change Section.

8. NOAA Science Advisory Board, Climate Working Group, June 2015-
9. AGU Council Leadership Team, April 2015-December 2016.
10. President, Global Environmental Change Focus Group, American Geophysical Union (AGU), January 2015-December 2016.
11. President-Elect, Global Environmental Change Focus Group, American Geophysical Union (AGU), January 2013-December 2014.
12. Panelist: The Economic and Financial Risks of a Changing Climate, An Invitation-Only Conference jointly sponsored by American Association for Advancement of Science and Resource For the Future, 12 November 2014, Washington, DC.
13. AGU Council Member, January 2013-December 2016.
14. Review Panel: NASA ACMAP, Washington DC, Oct 15-17, 2014.
15. AGU Science Trend Task Force, June-September 2014.
16. Chair and member, AGU Global Environmental Change Focus Group AGU fellow nomination committee, May 2013, May 2014.
17. Science Steering Committee, The Intra-Americas Seas Study of Climate Processes (IASCLiP), US Climate Variability and Predictability Program (CLIVAR), June 2014-.
18. Review Panel: DOE Early Career Award, January 23, 2014.
19. National Research Council, Committee on "Understanding and Observing Abrupt Climate Change", October 2012-July 2013.
20. Co-Chair, the NSF site review panel of the Science and Technology Center for Multiscale Modeling of Atmosphere Processes, Ft. Collins, CO, May 22-23, 2013.
21. The NOAA Modeling, Analysis, Predictions and Projections (MAPP) Program CMIP5 task force, 2012-present.
22. The NOAA Modeling, Analysis, Predictions and Projections (MAPP) Program drought task force, 2012-present.
23. Convener: International Workshop on Tibetan Plateau Surface-Troposphere-Stratosphere Interaction (STSI) Cooperation Research, University of Texas at Austin, February 20-21, 2012.
24. The American Geophysical Union, Meeting Committee, 2010-2012.
25. Review Panel: NSF Science and Technology Center reverse site visit, Arlington, VA, May 14-15, 2012-2015, co-chair in 2013
26. Co-Convener, "GC41 Climate Change and Drought 3: Improved Monitoring and Management to Increase Drought Resilience", AGU Fall Conference, San Francisco, December 5-9, 2011.
27. Review Panel: NASA ACMAP, Crystal City, Virginia, February 15-16, 2011
28. Review Panel: NOAA Modeling, Analysis, Prediction and Projection (MAPP) Program, December 3-4, 2010.
29. Co-convener, the NCAR Advanced Study Program Summer Colloquium "Asia in the 21st century", August 1-13th, 2010.
30. Review Panel: NOAA Climate Variability and Predictability, December 8-10, 2009.
31. National Research Council, Committee on "Challenges and Opportunities in Earth Surface Processes". November 2007 – June 2009.
32. Review Panel: NASA Modeling, Analysis, and Prediction, November 18-20, 2008.
33. Convener: "Abrupt change and tipping elements of climate change at decadal to

centennial scales", AGU Fall Conference, San Francisco, December 10-14, 2007.
34. Review Panel: NOAA Climate Predictability Program for the Americas, December 2-3, 2007
35. US CLIVAR Phenomena, Observations & Synthesis Panel, 2007 – 2010.
36. Review panel: NSF/NOAA/DOE DRICOMP Program, May 2007.
37. Review panel: NASA CloudSat/Calipso program, December 2006.
38. Review panel, the NOAA Cooperative Institute for Climate Studies (CICS) at Princeton University, January 18-19, 2006.
39. Review panel, NASA Carbon cycle Science, May 25-28, 2004.
40. Review panel, NASA New Investigators Program, Arlington, VA, June 11-13, 2002.
41. Review Panel: EPA (Environmental Protection Agency) Fellowship, 2001.
42. Review panel, NSF Faculty Early Career Development Program, Arlington, Virginia, January 11-14, 1999.
43. US CLIVAR (Climate Variability and Predictability Program) Drought Working Group, 2007-2008
44. UCAR membership committee, 2004-2006.
45. NCAR, The Institute of Integrative and Multidisciplinary Earth Studies (TIIMES) "Water and biogeochemical cycle" retreat, August 18-22, 2006.
46. NASA Earth System Scholar Network (ESSN) Technical committee, 2004-2005.
47. Chair and keynote speaker, NOAA CLIVAR/PACS (Pan American Climate Study) PI (Principle Investigator) meeting, South American Monsoon and Monsoon Modeling Sessions, Maryland, September 6-8, 2000.
48. Host and organization committee, NOAA Global Office PACS Program Principal Investigator Meeting, Tucson, Arizona, October 6-7, 1998.
49. NCAR Climate System Model workshops, Boulder and Breckenridge, Colorado, 1997-2006.
50. NASA EOS (Earth Observing System) Investigators Working Group, 1995-1998
51. Contributing author, the NASA EOS Science Plan, 1997.
52. New Global Hydrology initiative of NASA's Mission to Planet Earth Program in the Global Hydrology Workshop, Herndon, Virginia, June 1995.
53. Science team, NASA Aura, Atmospheric Composition Program, 2005 - present
54. Science team, NASA Terrestrial Ecology and Carbon Program, 2004 - 2007.
55. Science team, NASA SeaWinds Program, 2000 – present.
56. Science team, NASA Global Water and Energy Cycle Program, 2002-2005.
57. Science team, NASA Upper Atmosphere Research Satellite, 1997-1999.
58. Science team, NASA Hydro-meteorological Participation in the Large-Scale Biosphere-Atmosphere Experiment in Amazonia, 1999.
59. Chair, Climate Variability and Change Session, First Symposium of NASA ESSN, September 27-29, 2004.
60. Co-convener, Special Joint session of O, H, A. B "Ocean-Atmosphere-Land Interaction Studies Using Spacebased Scatterometer", 2001 Fall AGU Conference, San Francisco, California, December 10-14, 2001.

61. Co-convener, Special Joint session of A, H and O "Roles of atmosphere, land surface and oceans in determining the monsoon climate," 1999 Fall AGU Conference, San Francisco, California, December 13-17, 1999.
62. Organization committee and session chair, 1999 AGU Chapman Water Vapor Conference, Potomac, Maryland, October 12-15, 1999.
63. SPARC (Stratospheric Processes and Their Role in Climate) water vapor workshop, World Climate Research Program (WCRP), Boulder, Colorado, August 26-28, 1998.

International:

1. The Science Panel for the Amazon, United Nations, 2019-.
2. International CLIVAR, American Monsoon Regional Working Group, 2017-present.
3. Science Advisor, Oxford University Press-Environmental, 2013-2015.
4. Associate Editor ("Editor"), journal "Anthropocene", Elsevier, August 2012-April 2014.
5. The Sackler Forum 2012: Integrated assessment models and the future needs of climate change research, The US National Academy of Sciences and the UK Royal Society, Chicheley, UK, September 18-19, 2012.
6. The External Science Advisory Committee, International Pacific Research Center (IPRC), University of Hawaii, 2011-2014.
7. Co-convener: Joint UT Austin, UK Metoffice and NASA JPL Climate Modeling and High Performance Computing Workshop, Austin, Texas, Jan 30th-Feb. 1st, 2012.
8. Co-convener: Joint UT Austin, UK Metoffice and Texas State Agencies climate service workshop, Austin, Texas, Feb. 2nd, 2012.
9. Convener: International Workshop on Tibetan Plateau Surface-Troposphere-Stratosphere Interaction (STSI) Cooperation Research, University of Texas at Austin, February 20-21, 2012.
10. Co-convener and chair: 2010 AGU Meeting of Americas, A04 Session, Foz do Iguacu, August 9, 2010.
11. Session Chair: The fifth workshop on "Surface-Troposphere-Stratosphere Interaction (STSI) over the Tibetan Plateau and its impacts on global and regional climate change", the Chinese Academy of Meteorological Sciences (CMAS), Beijing, China, September 13-14, 2010.
12. Co-convener and chair: 2010 AGU Meeting of Americas, A04 Session, Foz do Iguacu, August 9, 2010.
13. Session chair: International Workshop on ASM-STE, Lhasa, China, July 22, 2010.
14. Co-Chair, "Energy and Water Cycle over the Tibetan Plateau and the Related Area", The 5th International Symposium on Tibetan Plateau / The 24th Himalaya- Karakorum-Tibet Workshop, Beijing, China, August, 11 – 14, 2009.
15. WCRP/CLIVAR-GEWEX Asian Monsoon Year-2008 International Workshop. Beijing, April 23-25, 2007.
16. SPARC/GEWEX (Global Energy and Water Cycle Experiment) Workshop on Modeling of deep convection and chemistry and their roles in the tropical tropopause layer. Victoria, BC, Canada, June 12-15, 2006.

17.Chair, D3: "Dynamics and variability of the monsoon systems and their effect on climate," IAMAS (International Association of Meteorology and Atmospheric Sciences) Conference, Beijing, China, August 2-11, 2005.
18.Convener, Special session 3 "Role of Amazon ecosystem in determining regional and global climate variabilities." III International Conference of LBA, Brasilia, Brazil, July 27-29, 2004.
19.Chair, MC03 "Monsoon around world", IUGG (International Union of Geodesy and Geophysics) 2003, Sapporo, Japan, June 30-July 11, 2003.
20. CLIVAR/VAMOS (Variability of American Monsoon Systems) 4th. Panel Meeting, WMO (World Meteorological Organization), Miami, April 23-26, 2003.
21.Organization Committee, conference on South American low-level Jet, of American monsoon system (CLIVAR/VAMOS) program, WMO, Santa Cruz de la Sierra, Bolivia, February 5-7, 2002
22. Co-author, Chapter 3 of SPARC assessment of upper troposphere and stratosphere water vapor, Edited by Kley. D. J.M. Russell III and C. Phillips, WCRP-113, WMO/TD – No. 1043. December 2000.
23. SPARC Water Vapor Assessment, WCRP, May 1999.
24. The First Workshop of CLIVAR/VAMOS, WMO, Sao Paulo, Brazil, April 1998.
25.CLIVAR/VAMOS South American Monsoon Working Group for the CLIVAR/VAMOS science plan, 1988.
26.The first working group meeting of the Global Energy and Water Cycle Experiment (GEWEX) Water Vapor (GvaP) program, WCRP, Geneva, Switzerland, November 1996.
27.Contributor, 1995 Intergovernmental Panel on Climate Change Report (Chapter Four: Climate Processes).

Reviewer of Manuscripts and Text Books for the Following Journals and Publishers:

Science
Nature, Nature Climate Change
Proceeding of National Academic of Sciences
Review of Geophysics
Journal of Climate
Journal of Atmospheric Sciences
Monthly Weather Review
Journal of Hydrometeorology
Journal of Geophysical Research,
Geophysical Research Letter
Quarterly Journal of Roy Meteorological Society
Earth's Future
International Journal of Climatology
Wley&Sons
WorldWatch Project, Northwestern University

Reviewer of Grant Applications for the Following Agencies:

National Science Foundation (NSF)
National Aeronautic and Space Administration (NASA)
National Oceanographic and Atmospheric Administration (NOAA)
Department of Energy (DOE)
American Advanced Association of Sciences-Kansas NSF EPSCoR program
Canadian Foundation for Climate and Atmospheric Sciences
National Science Foundation of China
United Kindom

Service Activities within universities:

University of California, Los Angeles:

1. Vice Chair, Department of Atmospheric and Oceanic Sciences
2. Member, Diversity and Inclusive Committee, Division of Physical Sciences, Collage of Letter, UCLA
3. Chair, Graduate award committee, Department of Atmospheric and Oceanic Sciences
4. Chair, Development Committee, Department of Atmospheric and Oceanic Sciences
5. Member, Graduate committee, Department of Atmospheric and Oceanic Sciences
6. Associate director, Joint Institute for Regional Earth System Science and Engineering, UCLA.

University of Texas at Austin:

1. University Gender Equity Council members, spring 2013-present
2. Leading the collaboration initiative between Jackson School of Geoscience (JSG) and NASA Jet propulsion Laboratory (JPL), including preparation and support of Dean's visit of JPL in July 2013, hosted the director of the Center for Climate Science from JPL in April 2014, and the Associate Director for Research of the Earth Science Division of NASA's Science Mission Directorate in Oct 2014. Setup a JSG/JPL postdoctoral fellow position.
3. Arranging and hosted the visit of Dr. Jack Kaye (the Associate Director for Research of the Earth Science Division, NASA's Science Mission Directorate), October 29-31, 2014.
4. Strategic Plan Committee, Department of Geological Sciences
5. Graduate admission committee, Spring 2014
6. UTIG Search committee for oceanographer, Spring 2011
7. Member, IT Committee, Department of Geological Sciences, The University of Texas at Austin.
8. Member, Science Steering Committee, the Environmental Science Institute, The University of Texas at Austin, Fall 2008 – Spring 2009.

Georgia Institute of Technology:

1.Chair, Graduate Admission Committee, Fall 2004 – Spring 2008
2.Tenure and promotion committee, Fall 2003-Spring 2004
3.Chair advisory committee, Fall 2002 – Spring 2003
4.Chair search committee, Spring 2002
5.Moving committee, Spring 2002
6.Graduate Admission Committee, 2000 - 2003
7.Award Committee, Spring 2000
8.Co-chair, EAS colloquium, Fall 2000, Spring 2001

The University of Arizona:

1. Chair, Ph.D Preliminary Examinations Committee, Fall 1996—Spring 1998
2. Chair and member, Grade Appeal Committees, Spring 1996—Spring 1997
3. Chair, Departmental Seminar Series, Fall 1995 and Spring 1996
4. Member of two Faculty Search Committees
5. Member of Departmental Head Search Committee

Out-Reach Activities:

1. Keynote: Climate change and California drought, the 11th Los Angeles Environmental Forum, August 10th, 2018, Los Angeles, California.
2. My research has been reported by popular media such as the New York Times, Wall street Journal, Washington Post and NewsWeek, United Press International, LiveScience, Huffington Post, BBC discovery natural history, and NASA News and Earth Observing Features.
3. OpEds about COP21 at local newspapers, including, Austin Statesman (12/0/2015), Caller Times of Corpus Christi (12/04/2015), The Monitor (21/1/2015).
4. Invited blog by Oxford Biliographies in Environmental Sciences, Nov. 30th 2015 for COP21.
5. Wall Street Journal, May 28th, 2015, Sudden Spring Eases Texas' yearslong Drought
6. KEYE-TV: Interview on Texas Drought, May 21, 2015
7. Community Newspaper Holdings, Texas, May 23, 2015.
8. Texas State Drought Preparedness Council, Briefing on 2015 summer drought condition, April 9th, 2015.
9. BBC Natural History One Planet: July 14, 2014. Cloud-rainforest interaction.
10. KEYE-TV: Interview about the effects of the rainforest on the climate, April 23, 2014.
11. Invited speaker: Amazon rainforest and Rainfall in a changing climate, Undergraduate Geological Club, the Jackson School of Geosciences, The University of Texas at Austin. April 11, 2013.
12. Collaboration with TWDB, regular working meetings, and two presentations report evaluation of most recent climate models' simulations and projections for Texas and also progress on drought early warning indicator.

13. Green Mountain Energy Company, Climate Change: Observations and Causes, Austin, Texas, May 7th, 2010.
14. Discovery Channel: Work with Bey Brosser for TV production using result from my Amazon climate-rainforest research. March 2010.
15. Attending Governor and Mrs. Perdue State Luncheon for U.N. Secretary-General, Atlanta, Georgia, May 8, 2008.