

# Yan Jiang

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## Research Interests

Climate dynamics, Land-climate-human interactions, water cycle, tropical rainforest, wildfire, food security, causal inference, remote sensing, machine learning

## EDUCATION

### Ph.D. in Atmospheric Science

03/2022

University at Albany, State University of New York (SUNY), Albany, NY  
Advisor: Dr. Liming Zhou  
Thesis committee: Drs. Liming Zhou, Aiguo Dai, Brian E. J. Rose, Robert Fovell

### B.S. in Atmospheric Science

06/2016

Sun Yat-Sen University (Zhongshan University), Guangzhou, China  
Advisor: Dr. Song Yang

## ACADEMIC APPOINTMENTS

### Postdoctoral Scholar

03/2022-present

School of Global Policy & Strategy, University of California, San Diego  
Advisor: Dr. Jennifer Burney

### Graduate Research Assistant

08/2016-01/2022

Department of Atmospheric & Environmental Science (DAES), University at Albany, SUNY  
Advisor: Dr. Liming Zhou

### Undergraduate Laboratory Assistant

09/2014-06/2016

Atmospheric Observation & Data Acquisition Laboratory, Sun Yat-Sen University  
Advisor: Dr. Guangdong Lan

## PUBLICATIONS

### In Progress

- [12] Jiang, Y. and Burney, J., Tracing Water Sources for Global Food Production
- [11] Jiang, Y., Zhou, L., ... Impacts of Evapotranspiration on Precipitation in the Congo Basin
- [10] Jiang, Y., Zhou, L., ... Changes in Rainfall Characteristics over Tropical Rainforests

### Published (\*corresponding author)

- [9] Jiang, Y.\*, Zhou, L., Roundy, P. E., Hua, W. & Raghavendra, A. (2021) Increasing influence of Indian Ocean Dipole on precipitation over Central Equatorial Africa. *Geophysical Research Letters*, [doi: 10.1029/2020GL092370](https://doi.org/10.1029/2020GL092370)

- [8] **Jiang, Y.\***, Zhou, L. & Raghavendra, A. (2020) Observed changes in fire patterns and possible drivers over Central Africa, *Environmental Research Letter*, 5, 9. [doi: 10.1088/1748-9326/ab9db2](https://doi.org/10.1088/1748-9326/ab9db2)
- [7] **Jiang, Y.**, Zhou, L.\*, Tucker, C. J., Raghavendra, A., Hua, W., Liu, Y. Y., & Joiner, J. (2019). Widespread increase of boreal summer dry season length over the Congo rainforest. *Nature Climate Change*, 9(8), 617-622, [doi: 10.1038/s41558-019-0512-y](https://doi.org/10.1038/s41558-019-0512-y)
- [6] Raghavendra, A.\*, Xia, G., Zhou, L. and **Jiang, Y.** (2022) Orographic enhancement of rainfall over the Congo Basin. *Atmospheric Science Letters*, e1079. [doi: 10.1002/asl.1079](https://doi.org/10.1002/asl.1079)
- [5] Alber, K.\*, Raghavendra, A., Zhou, L., **Jiang, Y.**, Sussman, H. S. & Solimine, S. L. (2020) Analyzing intensifying thunderstorms over the Congo Basin using the Gálvez-Davison index from 1983-2018. *Climate Dynamics*, 56, 949-967. [doi: 10.1007/s00382-020-05513-x](https://doi.org/10.1007/s00382-020-05513-x)
- [4] Raghavendra, A.\*, Zhou, L., Roundy, P. E., **Jiang, Y.**, Milrad, S. M., Hua, W. & Xia, G. (2020) The MJO's impact on rainfall trends over the Congo rainforest. *Climate Dynamics*, 1-13. [doi: 10.1007/s00382-020-05133-5](https://doi.org/10.1007/s00382-020-05133-5)
- [3] Raghavendra, A.\*, Zhou, L., **Jiang, Y.**, & Hua, W. (2018). Increasing extent and intensity of thunderstorms observed over the Congo Basin from 1982 to 2016. *Atmospheric Research*, 213, 17-26, [doi: 10.1016/j.atmosres.2018.05.028](https://doi.org/10.1016/j.atmosres.2018.05.028)
- [2] Hua, W.\*, Zhou, L., Chen, H., Nicholson, S. E., **Jiang, Y.**, & Raghavendra, A. (2018). Understanding the Central Equatorial African long-term drought using AMP-type simulations. *Climate Dynamics*, 50(3-4), 1115-1128, [doi: 10.1007/s00382-017-3665-2](https://doi.org/10.1007/s00382-017-3665-2)
- [1] Hua, W.\*, Zhou, L., Chen, H., Nicholson, S. E., Raghavendra, A., & **Jiang, Y.** (2016). Possible causes of the Central Equatorial African long-term drought. *Environmental Research Letters*, 11(12), 124002, [doi: 10.1088/1748-9326/11/12/124002](https://doi.org/10.1088/1748-9326/11/12/124002)

## Other Publications

- [2] Stutsrim, B., **Jiang, Y.**, Raghavendra, A., & Jones, B. (2019). Session 2: Weather Enterprise Keynote. Conference Report: 2019 AMS Summer Community Meeting, A. Raghavendra and L. C. Gaudet, Eds., *Amer. Meteor. Soc.*, 9-11.
- [1] Henny, L., Fandrich, K. M., **Jiang, Y.**, & Miller, S. (2019). Session 7: Authoritative Climate Science for Applications. Conference Report: 2019 AMS Summer Community Meeting, A. Raghavendra and L. C. Gaudet, Eds., *Amer. Meteor. Soc.*, 41-45.

## TALKS & CONFERENCE PRESENTATIONS

(Only including presentations as the presenting author)

- **Jiang, Y.** and Burney, J. 2022: Where Does Water Come from for Food Production: A Global Analysis. Session: Linkages Across Climate, Hydrologic, and Agricultural System/AGU 2022 Fall Meeting, Chicago, IL **(Oral)**
- **Jiang, Y.**, Zhou, L., Raghavendra, A., Roundy, P. E., and Hua, W. 2022: Increasing Influence of Indian Ocean Dipole on Precipitation over Central Equatorial Africa. 35th Conference on Climate Variability and Change/102nd AMS Annual Meeting, Houston, TX **(Oral- virtual)**
- **Jiang, Y.** 2021: Observed Variations in Precipitation Seasonality and Wildfires over Central Africa. GFDL/Princeton University, Princeton, NJ **(Invited-virtual)**
- **Jiang, Y.**, Zhou, L., Raghavendra, A. 2020: Recent Trends in Central African Fires and Possible Drivers. 100th AMS Annual Meeting, Boston, MA **(Oral)**
- **Jiang, Y.**, Zhou, L., Raghavendra, A. 2019: Observational Trends in Burned Area and Driving Forces over Central Africa. Graduate Climate Conference, Woods Hole, MA **(Poster)**
- **Jiang, Y.**, Zhou, L., Raghavendra, A. and Hua, W. 2018: Widespread Increase of Boreal Summer Dry Season

Length Observed over the Congo Rainforest in the Last Three Decade.

Chapman Conference on Hydrological Research in the Congo Basin, Washington, DC **(Poster)**

- **Jiang, Y.**, Zhou, L., Raghavendra, A. and Hua, W. 2018: Observed Trends of Dry Season Length over the Congo Basin. WCRP Grand Challenge on Clouds, Circulation and Climate Sensitivity: 2nd Meeting on Monsoons and Tropical Rain Belts, Trieste, Italy **(Poster)**
- **Jiang, Y.**, Zhou, L., Raghavendra, A. and Hua, W. 2017: Increase in Dry Season Length over the Congo. 31st Conference on Climate Variability and Change/98th AMS Annual Meeting, Austin, TX **(Poster)**

## GRANTS, AWARDS & SCHOLARSHIPS

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<b>Travel Grant</b> , Ohio State University	<b>2018</b>
<b>Travel Grant</b> , Climate and Large-Scale Dynamics Program of NSF	<b>2018</b>
<b>National Scholarship</b> , Sun Yet-Sen University (Highest award for Chinese undergraduate students)	<b>2014, 2015</b>
<b>First Price Scholar</b> , Sun Yet-Sen University	<b>2013, 2014, 2015</b>
<b>Zhongtao Environmental Scholarship</b> , Sun Yet-Sen University	<b>2013</b>

## MEDIA OUTREACH

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Selected coverage from local and national media outlets on published research

- UAlbany News, *"Decreasing Wildfires Observed Over Central Africa"*, 09/24/2020
- Pys.org, *"Decreasing Wildfires Observed Over Central Africa"*, 09/16/2020
- Eos, *"Congo Rainforest Endures a Longer Dry Season"*, 07/25/2019
- NASA Earth Observatory, *"A Longer Dry Season in the Congo Rainforest"*, 07/03/2019
- UAlbany News, *"Longer Summer Dry Season Observed in Congo Rainforest"*, 07/02/2019

## TEACHING & MENTORING

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### Teaching Assistant

DAES, UAlbany, SUNY **01/2018-05/2020**

- 2020 Spring, Climate Laboratory (Python & Jupyter Notebook Tutor), Professor: Brian Rose
- 2019 Fall, Atmospheric Physics (graduate level), Professor: Liming Zhou
- 2018 Fall & 2019 Spring, Remote Sensing (both graduate & undergraduate levels), Professor: Liming Zhou
- 2018 Spring, Introduction to Climate Change, Professor: Christopher D. Thorncroft

Department of Atmospheric Science, Sun Yat-Sen University

**08/2015-09/2015**

- Experiment of Atmospheric Observation, Professor: Guangdong Lan

### Mentor

Climatematch Academy: Computational Tools for Climate Science (forthcoming)

**07/2023**

First-year graduate student mentor program, UAlbany

**09/2017-08/2019**

## PROFESSIONAL & COMMUNITY SERVICES

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### Service to Scientific Community

<b>Guest Editor</b> , Special Issue “Exploring Emerging Climatic Changes and Responses in Plant Sciences Using Remote Sensing”, <i>Plants</i> , MDPI	<b>2023</b>
<b>Reviewer</b> (41 manuscripts for 10 journals) for Climate Dynamics, Communications Earth & Environment, Environmental Research Letters, Global Change Biology, International Journal of Climatology, Plants, Remote Sensing, Scientific Report, Sensors, AGU Books	
<b>Judge</b> , AGU Outstanding Student Presentation Awards Program	<b>12/2022</b>
<b>Rapporteur</b> , 2019 AMS Summer Community Meeting	<b>08/2019</b>
<b>Judge</b> , AMS Undergraduate Student Poster Session	<b>01/2018</b>

### University Service

<b>Grant Reviewer</b> , UAlbany Graduate Student Association Research Grant	<b>07/2019-12/2021</b>
<b>Co-Leader</b> , DAES Seminar Program Committee, UAlbany	<b>09/2018-08/2019</b>
<b>Volunteer</b> , Annual Earth Day, UAlbany	<b>04/2017,04/2019</b>
<b>Volunteer</b> , MiSi Science Festival, Schenectady, NY	<b>10/2018</b>
<b>Leader</b> , World Meteorology Day Lab Visit, Sun Yet-Sen University	<b>03/2015</b>

### Professional Affiliations

American Meteorological Society  
American Geophysical Union

## TECHNICAL SKILLS

<b>Programming</b>	Python (numpy, pandas, xarray, scipy, sklearn, gdal, pydrive), MATLAB, FORTRAN, CDO, Bash
<b>Data</b>	CHIRPS, CMAP, CMIP5, GLEAM, GPCC, GPCP, GNIP (Global Network of Isotopes in Precipitation), Reanalysis (ERA-Interim, ERA5, MERRA, MERRA2), Remote Sensing (GIMMS, MODIS, TES/AIRS, NOAA GridSat, TRMM), <i>in situ</i> meteorological observations (Africa)
<b>Models</b>	ICTP Regional Climate Model (RegCM4.9.3-CLM4.5), NCAR Community Earth System Model (CESM1.2.1)
<b>Systems &amp; Tools</b>	High Perform Computing Environment (slurm), Jupyter Notebook, Google Earth Engine, Windows, Linux, MacOS, Microsoft Office Suite, HTML/CSS
<b>Languages</b>	English, Mandarin (native), Japanese (JLPT N2), French (beginner)

## WORKSHOP & SUMMER SCHOOL

<b>NASA JPL Summer School</b> on <i>Satellite Observational and Climate Models</i> , virtual	<b>08/2020</b>
<b>Unidata Python Workshop</b> , UAlbany	<b>05/2018</b>
<b>International Centre of Theoretical Physical Summer School</b> on <i>Theory, Mechanisms and Hierarchical Modeling</i> , Trieste, Italy	<b>06/2018-07/2018</b>
<b>Peking University Summer School</b> on <i>Climate, Weather, and Pollution and Health Consequence</i> , Beijing, China	<b>07/2017-08/2018</b>
<b>Plymouth University Field Course &amp; Campaign</b> on <i>River Water Quality</i> , Plymouth, UK	<b>03/2014-04/2014</b>