



## Wenchang Yang

Postdoctoral Research Associate

408 Guyot Hall, Department of Geosciences, Princeton University

wenchang@princeton.edu

+1(646)801-8086

<https://scholar.princeton.edu/wenchang>

## Research Interests

Climate Variability, Change, Extremes and Modeling

East African Hydroclimate; Volcanic Impact on Climate, Moisture Transport and Arctic Climate

ITCZ and ENSO; Monsoon; Storm Tracks

## Education

2014 Ph.D., Columbia University

Thesis: *The Hydroclimate of East Africa: Seasonal Cycle, Decadal Variability, and Human-induced Climate Change*. Advisors: Prof. Richard Seager and Prof. Mark A. Cane

2007 M.S., Peking University, China

2004 B.S., Peking University, China

## Employment

2017 Dec – Present, Postdoctoral Research Associate, Princeton University

2015 Jan – 2017 Nov, Postdoctoral Scholar, University of California at Irvine

## Publications

2018 **Yang, W.**, G. Magnusdottir (2018): Year-to-year Variability in Arctic Minimum Sea Ice Extent and its Preconditions in Observations and the CESM Large Ensemble Simulations. *Scientific Reports*, **8**, 9070, doi: 10.1038/s41598-018-27149-y

2017 **Yang, W.**, G. Magnusdottir (2017): Springtime Extreme Moisture Transport into the Arctic and its Impact on Sea Ice Concentration. *J. Geophys. Res. Atmos.*, **122**, 5316–5329, doi: 10.1002/2016JD026324

2016 **Yang, W.**, G. Magnusdottir (2016): Interannual Signature in Daily ITCZ States in the East Pacific in Boreal Spring, *J. Clim.*, **29**, 8013–8025, doi: 10.1175/JCLI-D-16-0395.1

2015 **Yang, W.**, R. Seager, M. A. Cane, and B. Lyon (2015): The Rainfall Annual Cycle Bias over East Africa in CMIP5 Coupled Climate Models. *J. Clim.*, **28**, 9789–9802, doi: 10.1175/JCLI-D-15-0323.1

**Yang, W.**, R. Seager, M. A. Cane, and B. Lyon (2015): The Annual Cycle of the East African Precipitation. *J. Clim.*, **28**, 2385–2404, doi: 10.1175/JCLI-D-14-00484.1

2014 **Yang, W.**, R. Seager, M. A. Cane, and B. Lyon (2014): The East African Long Rains in Observations and Models. *J. Clim.*, **27**, 7185–7202, doi: 10.1175/JCLI-D-13-00447.1

- 2013 **Yang, W.**, R. Seager, and M. A. Cane (2013): Zonal Momentum Balance in the Tropical Atmospheric Circulation During the Global Monsoon Mature Months. *J. Atmos. Sci.*, **70**, 583–599, doi: 10.1175/JAS-D-12-0140.1
- 2008 Nie, J., P. Wang, **W. Yang**, and B. Tan (2008): Northern Hemisphere Storm Tracks in Strong AO Anomaly Winters. *Atmos. Sci. Lett.*, **9**, 153–159, doi: 10.1002/asl.186
- 2007 **Yang, W.**, J. Nie, P. Lin, and B. Tan (2007): Baroclinic Wave Packets in an Extended Quasi-geostrophic Two-layer Model. *Geophys. Res. Lett.*, **34**, L05822, doi: 10.1029/2006GL029077

### Manuscripts

- 2018 **Yang, W.**, et al. (2018): Impact of Large Volcanic Eruptions in the FLOR Climate Model. **in preparation**

### Teaching Experience

- 2009 Fall, Teaching Assistant (with John Sawicki), Columbia University  
*Quantitative Models of Climate-Sensitive Natural and Human Systems*  
Instructors: Prof. Mingfang Ting and Prof. Anthony G. Barnston
- 2008 Fall, Teaching Assistant (with Daniel Ruiz Carrascal), Columbia University  
*Quantitative Models of Climate-Sensitive Natural and Human Systems*  
Instructors: Prof. Mingfang Ting and Prof. Anthony G. Barnston
- 2006 Spring, Teaching Assistant, Peking University, China  
*Atmospheric Dynamics*  
Instructor: Prof. Benkui Tan

### Presentations

- 2018 Apr 27, AOS Student/Postdoc Seminar, Princeton University  
*Impact of Large Volcanic Eruptions in the FLOR Climate Model*
- 2016 Dec 16, American Geophysical Union Fall Meeting, San Francisco  
*Springtime Extreme Moisture Transport into the Arctic - Its Impact and Associated Large-scale Atmospheric circulation*
- Jun 08, AOS Seminar, Peking University  
*Decadal Variability of East African Hydroclimate in Observations and Models and the Implication for the Future Projection*
- 2015 Dec 14 (poster), American Geophysical Union Fall Meeting, San Francisco  
*The East Pacific Double ITCZ during Boreal Spring in Observations.*
- 2014 Oct 27, Columbia University PhD Thesis Defense, Seismology Room at Lamont.  
*The Hydroclimate of East Africa: Seasonal cycle, Decadal Variability, and Human-induced Climate Change*
- Sep 25, AOCD Seminar, Yale University

*Why is East Africa Drying during the Spring Rainy Season in Recent Decades?*

Jun 04, GFDL Seminar, Princeton University

*East African Precipitation and Droughts: from Decadal Variability to Annual Cycle*

May 28, GloDecH Meeting, Columbia University

*The Dual Peaked Seasonal Cycle of Precipitation Over Tropical East Africa*

2013 Dec 9-13 (poster), American Geophysical Union Fall Meeting, San Francisco

*The East African Long Rains in Observations and Models*

Jun 12, GloDecH Meeting, Columbia University

*Decadal Variability of the East African Long Rains in Obs. and Models*

2012 Dec 3-7 (poster), American Geophysical Union Fall Meeting, San Francisco

*Zonal Momentum Balance in the Tropical Atmospheric Circulation during the Global Monsoon Mature Months*

2011 Dec 5-9 (poster), American Geophysical Union Fall Meeting, San Francisco

*Simulating and Diagnosing the Dynamics of the Global Monsoon in a Simple Tropical Atmosphere Model*

Jun 20, Atmosphere-Ocean Science Days, MIT

*Global Monsoon Simulation in a Simple Numerical Model*

2009 Apr 09, Columbia University Graduate Oral Meeting

*Trends and Patterns of Different Monsoons over the Period of 1979–2007*

2007 May 26, Peking University M.S. Thesis Defence Meeting

*Baroclinic Wave Packets in an Extended Quasi-geostrophic Two-layer Model*

2007 Apr 19, Peking University Graduate Student Research Meetings

*A Numerical Solution to the Quasi-geostrophic Two-layer Model*

## Professional Services

### Journal Reviews

*Nature Climate Change, Scientific Reports, Climate Dynamics*

*Journal of Climate, Journal of the Atmospheric Sciences*

*Geophysical Research Letters, Journal of Geophysical Research-Atmospheres*

*Quarterly Journal of the Royal Meteorological Society, International Journal of Climatology*

*Journal of Applied Meteorology and Climatology, Advances in Atmospheric Sciences*

### Other Services

2015 Judge for the Outstanding Student Paper Awards in the AGU Fall Meeting

2010 – 2011, Coordinator for the Division of Ocean and Climate Physics Seminars at Lamont, Columbia University

### **Professional Associations**

American Geophysical Union (AGU), member  
American Meteorology Society (AMS), member

### **Awards and Honors**

2007 Faculty Fellowship of GSAS, Columbia University  
Second Prize in "Zhong Shengbiao Education Foundation" Student Academic Forum  
2005 May 4th Scholarship  
2004 Graduate of All Universities in Beijing City with Highest Honors  
Graduate of Peking University with Highest Honors  
2002 Triple-A Student of Peking University  
2001 Triple-A Student of Peking University  
2001 – 2004, Cyrus Tang Foundation Scholarship  
2000 Triple-A Student of High Schools in Jiangsu Province, China  
1999 First Prize in National High School Mathematics Olympiad, Jiangsu, China  
Second Prize in National High School Biology Olympiad, Jiangsu, China  
Third Prize in National High School Physics Olympiad, Jiangsu, China