



Wenchang Yang

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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*, 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 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