

Ying Li

Department of Atmospheric Science
Colorado State University
3915 W. Laporte Ave.
Fort Collins, CO 80521

Office: (970) 491-3547
Mobile: (609) 356-6330
Email: yingli@atmos.colostate.edu
Homepage: <http://atmos.colostate.edu/~yingli/>

Research Interests

Climate dynamics and variability, Storm track dynamics, Eddy-mean flow interactions, Air-sea interactions, Stratosphere-troposphere coupling, Cloud radiative feedbacks.

Education

Princeton University, USA

Ph.D. in Atmospheric and Oceanic Sciences

November 2011

Advisor: Dr. Ngar-Cheung Lau

Ph.D. Dissertation: Dynamical mechanisms for the teleconnection between ENSO and NAO in late winter

Institute of Atmospheric Physics (IAP), Chinese Academy of Sciences (CAS), China

M.S. in Meteorology

June 2006

Advisor: Dr. Riyu Lu

M.S. thesis: The ENSO-Asian monsoon interaction in a coupled ocean-atmosphere GCM

Zhejiang University, China

B.S. in Atmospheric Sciences

June 2003

Academic Experience

Research scientist II

August 2016–

Department of Atmospheric Science, Colorado State University, USA

Postdoctoral scientist

January 2012–July 2016

Department of Atmospheric Science, Colorado State University, USA

Advisor: Dr. David W. J. Thompson

Focus: The two-way interactions between cloud radiative forcing and large-scale atmospheric dynamics

Research Assistant

September 2006–October 2011

Atmospheric and Oceanic Sciences (AOS) Program, Princeton University, USA

Advisor: Dr. Ngar-Cheung Lau

Focus: El Niño-Southern Oscillation (ENSO)/North Atlantic Oscillation (NAO) teleconnection, eddy-mean flow interactions, downstream development of wave packets, stratospheric polar vortex variability and stratospheric sudden warming, influence of stratospheric variability on tropospheric variability

Research Assistant

September 2003–June 2006

Institute of Atmospheric Physics, Chinese Academy of Sciences, China

Advisor: Dr. Riyu Lu

Focus: ENSO and East Asian monsoon interactions, East Asian rainfall response to global warming, internal variability of Arctic and Antarctic Oscillation, interannual variability of summertime tropospheric circulation in the western North Pacific and East Asian region

Peer-Reviewed Publications

1. **Li, Y.**, D. W. J. Thompson and D. Olonscheck, 2019: The basic effect of cloud radiative effects on tropical sea surface temperature variability. *J. Climate*, in revision.
2. Taylor, P. C., R. C. Boeke, **Y. Li** and D. W. J. Thompson, 2019: Arctic cloud annual cycle biases in climate models. *Atmos. Chem. Phys.*, **19**, 8759–8782.
3. **Li, Y.**, D. W. J. Thompson, S. Bony and T. M. Merlis, 2019: Thermodynamic control on the poleward shift of the extratropical jet in climate change simulations: The role of rising high clouds and their radiative effects. *J. Climate*, **32**, 917–934.
4. Thompson, D. W. J., P. Ceppi and **Y. Li**, 2019: A robust constraint on the temperature and height of the extratropical tropopause. *J. Climate*, **32**, 273–287.
5. **Li, Y.**, D. W. J. Thompson and Y. Huang, 2017: The influence of atmospheric cloud radiative effects on the large-scale stratospheric circulation. *J. Climate*, **30**, 5621–5635.
6. Thompson, D. W. J., S. Bony and **Y. Li**, 2017: Thermodynamic constraint on the depth of the global tropospheric circulation. *Proc. Natl. Acad. Sci.*, **114**, 8181–8186.
7. **Li, Y.** and D. W. J. Thompson, 2016: Observed signatures of the barotropic and baroclinic annular modes in cloud vertical structure and cloud radiative effects *J. Climate*, **29**, 4723–4740.
8. **Li, Y.**, D. W. J. Thompson and S. Bony, 2015: The influence of atmospheric cloud radiative effects on the large-scale atmospheric circulation. *J. Climate*, **28**, 7263–7278.
9. Thompson, D. W. J. and **Y. Li**, 2015: Baroclinic and barotropic annular variability in the Northern Hemisphere. *J. Atmos. Sci.*, **72**, 1117–1136.
10. **Li, Y.**, D. W. J. Thompson, G. L. Stephens and S. Bony, 2014: A global survey of the instantaneous linkages between cloud vertical structure and large-scale climate. *J. Geophys. Res.*, doi:10.1002/2013JD020669.
11. **Li, Y.**, D. W. J. Thompson, Y. Huang and M. Zhang, 2014: Observed linkages between the Northern Annular Mode/North Atlantic Oscillation, cloud incidence, and cloud radiative forcing. *Geophys. Res. Lett.*, **41**, 1681–1688.
12. **Li, Y.** and D. W. J. Thompson, 2013: The signature of the stratospheric Brewer-Dobson circulation in tropospheric clouds. *J. Geophys. Res.*, **118**, 3486–3494.
13. **Li, Y.** and N.-C. Lau, 2013: Influences of ENSO on stratospheric variability, and descent of stratospheric perturbations into the lower troposphere. *J. Climate*, **26**, 4725–4748.
14. **Li, Y.** and N.-C. Lau, 2012: Contributions of downstream eddy development to the teleconnection between ENSO and atmospheric circulation over the North Atlantic. *J. Climate*, **25**, 4993–5010.
15. **Li, Y.** and N.-C. Lau, 2012: Impact of ENSO on the atmospheric variability over the North Atlantic in late winter – Role of transient eddies. *J. Climate*, **25**, 320–342.
16. Lu, R.-Y., **Y. Li**, and Chan-Su Ryu, 2008: Relationship between the zonal displacement of the western Pacific subtropical high and the dominant modes of low-tropospheric circulation in summer. *Progress in Natural Science*, **18**, 161–165.
17. **Li, Y.**, R. Lu, and B. Dong, 2007: The ENSO-Asian monsoon interaction in a coupled atmosphere GCM. *J. Climate*, **20**, 564–5177.
18. Lu, R.-Y., **Y. Li**, and B. Dong, 2007: East Asian precipitation increase under the global warming. *J. Korean Met. Soc.*, **43**, 267–272.
19. Lu, R.-Y., **Y. Li**, and B. Dong, 2007: Arctic Oscillation and Antarctic Oscillation in internal atmospheric variability with an ensemble AGCM simulation. *Adv. Atmos. Sci.*, **24**, 152–162.
20. Lu, R.-Y., **Y. Li**, and B. Dong, 2006: External and internal summer atmospheric variability in the western North Pacific and East Asia. *J. Meteor. Soc. Japan*, **84**, 447–462.

Conferences, Workshops and Symposia

American Geophysical Union Fall meeting, Washington, DC, Dec. 2018 (talk)

Understanding and Modeling the Earth's Climate: A symposium in honor of Isaac Held, Princeton, NJ, Oct. 2018

CFMIP Meeting on Clouds, Precipitation, Circulation, and Climate Sensitivity, Boulder, CO, Oct. 2018 (talk)

American Geophysical Union Fall meeting, New Orleans, LA, Dec. 2017 (poster)

Gordon Research Conference, Radiation and Climate, July 2017 (invited)

Bill Rossow's Retirement Symposium, June 2017 (talk)

American Geophysical Union Fall meeting, San Francisco, CA, Dec. 2016 (poster)

Model Hierarchies Workshop, Princeton, NJ, Nov. 2016

Gordon Research Conference, Radiation and Climate, Lewiston, ME, July 2015 (poster)

Gordon Research Conference, Radiation and Climate, Lewiston, ME, July 2015 (poster)

Gordon Research Seminar, Radiation and Climate, Lewiston, ME, July 2015 (talk)

20th Conference on Atmospheric and Oceanic Fluid Dynamics, Minneapolis, MN, June 2015 (talk)

2014 CESM tutorial, Boulder, CO, Aug. 2014

Workshop on Clouds, Aerosols, Radiation and the Air-Sea Interface of the Southern Ocean: Establishing Directions for Future Research, Seattle, WA, Mar. 2014 (talk)

NOAA's 38th Climate Diagnostics and Prediction Workshop, College Park, MD, Oct. 2013 (poster)

Gordon Research Conference, Radiation and Climate, New London, NH, July 2013 (poster)

Gordon Research Seminar, Radiation and Climate, New London, NH, July 2013 (poster)

19th Conference on Atmospheric and Oceanic Fluid Dynamics, Newport, RI, June 2013 (talk)

17th Conference on Middle Atmosphere, Newport, RI, June 2013 (talk)

NOAA's 37th Climate Diagnostics and Prediction Workshop, Fort Collins, CO, Oct. 2012 (poster)

Cloud Dynamics Workshop, California Institute of Technology, Pasadena, CA, June 2012 (talk)

American Geophysical Union Fall meeting, San Francisco, CA, Dec. 2011 (talk)

AOS-Geophysical Fluid Dynamics Laboratory (GFDL)-School of Engineering and Applied Sciences (SEAS) Symposium on Fluid Dynamics and the Global Environment, Princeton University, Princeton, NJ, May 2011 (talk)

Geosciences Department and AOS Program, Princeton University, Princeton, NJ, Feb. 2011 (talk)

Wallace Symposium, University of Washington, Seattle, WA, Sep. 2010 (talk)

GFDL External Review, NOAA/GFDL, Princeton, NJ, July 2009 (poster)

Atmosphere-Ocean Science Days, Courant Institute for Mathematical Sciences, New York University, New York, NY, May 2009 (talk)

Princeton Center of Theoretical Science Workshop, Fundamental Problems in Climate Dynamics, Princeton University, Princeton, NJ, May 2009 (student attendee)

Geosciences Department and AOS Program, Princeton University, Princeton, Feb. 2009 (talk)

Conference on Teleconnections in the Atmosphere and Oceans, Trieste, Italy, Nov. 2008 (poster)

The 5th International Symposium on Asia Monsoon System (ISAMS5), Yongpyong, South Korea, Oct. 2005 (talk)

The 6th National Dynamic Meteorology Academic Conference, Chengdu, China, Aug. 2005 (talk)

The 2005 IAMAS (International Association of Meteorology and Atmospheric Sciences) Scientific Assembly, Beijing, China, Aug. 2005 (talk)

The Academic Annual Meeting: ICCE (International Center for Climate and Environment Sciences) Sym-

posium 2005, Beijing, China, Feb. 2005 (talk)

Seminars

George Mason University, Dept. of Atmospheric, Oceanic, and Earth Sciences, Fairfax, VA, Feb. 2019

NASA's Goddard Space Flight Center, Greenbelt, MD, Feb. 2019

NASA's Langley Research Center, Hampton, VA, June. 2017

NASA's Langley Research Center, Hampton, VA, Feb. 2016

Columbia University, Dept. of Applied Physics and Applied Mathematics, New York, NY, Oct. 2015

Institute of Atmospheric Physics, Beijing, China, Mar. 2015

University of Virginia, Department of Environmental Sciences, VA, Nov. 2014

Princeton University, AOS Program, Princeton, NJ, Sep. 2014

Columbia University, Lamont-Doherty Earth Observatory, Palisades, NY, Sep. 2013

Massachusetts Institute of Technology, Dept. of Earth, Atmospheric and Planetary Sciences, Cambridge, MA, Sep. 2013

Colorado State University, Department of Atmospheric Science, CO, May 2013

Colorado State University, Department of Atmospheric Science, CO, Feb. 2012

NOAA/ESRL, Physical Sciences Division, Boulder, CO, Apr. 2011

Columbia University, Dept. of Applied Physics and Applied Mathematics, New York, NY, Mar. 2011

Columbia University, Lamont-Doherty Earth Observatory, Palisades, NY, Jan. 2011

Princeton University, AOS Program, Princeton, NJ, Sep. 2010

Princeton University, AOS Program, Princeton, NJ, Nov. 2008

Institute of Atmospheric Physics, Beijing, China, June 2008

Princeton University, AOS Program, Princeton, NJ, Mar. 2008

Princeton University, AOS Program, Princeton, NJ, Nov. 2007

Proposals

2016–2019. Thompson, D. W. J. and **Y. Li**. Understanding two-way coupling between cloud radiative effects and the large-scale extratropical atmospheric circulation. NSF Climate & Large-Scale Dynamics Program. \$635,603 (Role: Co-PI)

2017–2019. Taylor, P. C., **Y. Li**, D. W. J. Thompson and R. Boeke. Exposing systematic errors in Arctic clouds in climate models and their implications for climate change simulations. NASA Data for Operation and Assessment Program. \$425,741 (\$77,749 to CSU; Role: Co-PI)

Academic Service

Committees

Thesis Committee: Casey Patrizio (Ph.D.; on the topics of Cloud Dynamics and Surface-Atmosphere Interactions; advised by Dave Thompson and Dave Randall; current)

Journal Reviewer

Nature, *Nature geoscience*, *Journal of Atmospheric Sciences*, *Journal of Climate*, *Journal of Geophysical Research–Atmosphere*, *Geophysical Research Letters*, *Quarterly Journal of the Royal Meteorological Society*, *Atmospheric Chemistry and Physics*, *Climate Dynamics*, *Journal of Advances in Modeling Earth Systems*, *Journal of Atmospheric and Oceanic Technology*, *Journal of Applied Meteorology and Climatology*, *Atmosphere*, *American Journal of Science*, *Acta Geophysica*, *Acta Meteorological Sinica*

Scientific Meeting

Session co-convenor (with Robert Fajber, O. Watt-Meyer and K. M. Grise) “Coupling of Clouds and Moisture with the Large-Scale Atmospheric Circulation”, AGU Fall meeting, Washington DC, December 2018

Session co-convenor (with O. Watt-Meyer and K. M. Grise) “Coupling of Clouds and Moisture with the Large-Scale Atmospheric Circulation”, AGU Fall meeting, New Orleans, LA, December 2017

Session co-convenor (with K. M. Grise and A. Voigt) “Coupling of Cloud Processes with the Large-Scale Atmospheric Circulation”, AGU Fall Meeting, San Francisco, CA, December 2016

Session chair (with Martin Singh) “Climate sensitivity redux”, Model Hierarchies Workshop, Princeton, NJ, November 2016

Session chair, “ENSO and the QBO” at the 17th Conference on Middle Atmosphere, Newport, RI, June 2013

Honors, Awards, & Scholarships

Conference Honorarium for Wallace Symposium	2010
First-year Fellowship in Science and Engineering with Merit Prize, Princeton University	2006
Outstanding Graduate Student, Chinese Academy of Sciences	2005
Outstanding Graduate of Zhejiang University	2003
Chinese Academy of Sciences Fellowship (One of the top fellowships for outstanding undergraduates of Zhejiang University, annually awarded to only 3 undergraduates), Zhejiang University	2002
Outstanding Student Leader Award, Zhejiang University	2002

Professional Membership

Earth Science Women’s Network	2009–Present
American Geophysical Union	2008–Present
American Meteorological Society	2008–Present

Leadership and Other Experience

Vice President: Geoscience Undergraduate Student Association, Zhejiang University	2002–2003
Academic Exchange: <i>Excursion on Hydrogeology and Environmental Geology in Germany</i> , Supported by the German Academic Exchange Service (DAAD), and led by Dr. Klaus-Dieter Balke from University of Tübingen and Dr. Yan Zhu from Zhejiang University (selected as one of the 11 undergraduate and graduate students university wide)	October 2002
Project Leader: <i>Satellites and Remote Sensing Technology</i> in the 4th Student Research Training Program (S RTP), Zhejiang University	2001–2002