

Curriculum Vitae

Jianhua Lu

Research Faculty I
Center for Ocean-Atmospheric Prediction Studies
Florida State University
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Education

- **Ph. D in Meteorology** *May 1999*
Institute of Atmospheric Physics (IAP), Chinese Academy of Sciences (CAS)
Thesis Advisor: Duzheng Ye (T.C. Yeh) and Jinjun Ji
Thesis title: A Simulation Study of Regional Atmosphere-Vegetation
Interactions on Seasonal and Interannual Scales
- **M.S. in Meteorology** *Feb. 1994*
Institute of Atmospheric Physics (IAP), Chinese Academy of Sciences (CAS)
Thesis Advisor: Duzheng Ye (T.C. Yeh)
- **B.S. in Meteorology** *June 1990*
Department of Meteorology, Nanjing University

Professional Experience

- **Research Faculty I** *Jan. 2014-*
Florida State University, Center for Ocean-Atmospheric Prediction
Studies (COAPS)
- **Assistant Scholar Scientist** *Jan. 2011- Dec. 2013*
Florida State University, Center for Ocean-Atmospheric Prediction
Studies (COAPS)
- **Visiting Scientist** *Mar. 2014-Sept. 2014*
Brookhaven National Laboratory, Department of Energy.
[Working on understanding and reducing tropical rainfall bias in climate models
with the FASTER team in BNL.]
- **Visiting Senior Scientist** *Oct. 2013-*

Overseas Adviser of Graduate Students Apr. 2014-
Institute of Atmospheric Physics, Chinese Academy of Sciences.

- **Postdoctoral Research Associate** June 2005 – Dec. 2010
Florida State University, Department of Meteorology (until Jan. 2009) and
Geophysical Fluid Dynamics Institute (from Feb. 2009 to Dec. 2010)
- **Visiting Scientist** June 2002 - May 2005
University of Hawaii, Department of Meteorology
- **Assistant Research Scientist** Feb. 1999 - May 2002
Institute of Atmospheric Physics, Chinese Academy of Sciences
- **Graduate Research Assistant** Feb. 1994 – Feb. 1999
Institute of Atmospheric Physics, Chinese Academy of Sciences

Peer-reviewed Journal Publications

- **Lu J.**, F. Wang, H. Liu, P. Lin (2016), Stationary Meso-Scale Eddies, Up-gradient Eddy Fluxes and the Anisotropy of Eddy Diffusivity. *Geophys. Res. Lett.*, doi: 10.1002/2015GL067384.
- **Lu J.** (2015), On "Some Fundamental Problems of the General Circulation of the Atmosphere". *Chinese Journal of Atmospheric Sciences*, doi: 10.3878/j.issn.1006-9895.1505.15140
- Liu B., T. Zhou, **J. Lu** (2015), Quantifying contributions of model processes to the surface temperature bias in FGOALS-g2. *J. Adv. Model. Earth Systems*. doi: 10.1002/2015MS000459
- S. M. Downes, R. Farneti, ..., **J. Lu**, ..., et al. (2015) An assessment of Southern Ocean water masses and sea ice during 1988–2007 in a suite of inter-annual CORE-II simulations. *Ocean Modell.*, doi:10.1016/j.ocemod.2015.07.022.
- R. Farneti, S. M. Downes, ..., **J. Lu**, ..., et al. (2015) An assessment of Antarctic Circumpolar Current and Southern Ocean meridional overturning circulation during 1958–2007 in a suite of interannual CORE-II simulations. *Ocean Modell.*, doi: 10.1016/j.ocemod.2015.07.009
- **Lu J.**, A. Hu, and Z. Zeng (2014), On the possible interaction between internal climate variability and forced climate change. *Geophys. Res. Lett.*, 41(8): 2962–2970.
- G. Danabasoglu, S. Yeager, D. Bailey, ..., **J. Lu**, ..., et al. (2014), North Atlantic Simulations in Coordinated Ocean-ice Reference Experiments phase II (CORE-II).

Part I: Mean States. *Ocean Modelling*, 73: 76-107.

- S. M. Griffies, J. Yin, P. J. Durack, ..., **J. Lu**, ..., et al. (2014), An assessment of global and regional sea level for years 1993–2007 in a suite of interannual CORE-II simulations. *Ocean Modelling*, 78:35-89.
- Hu A., G. A. Meehl, W. Han, **J. Lu**, and W. G. Strand (2013), Energy balance in a warm world without the ocean conveyor belt and sea ice. *Geophys. Res. Lett.*, 40(23): 6242-6246.
- **Lu J.**, K. Speer (2010), Topography, jets, and eddy mixing in the Southern Ocean. *J. Mar. Res.*, 68:479-502.
- **Lu J.**, M. Cai (2009), Quantifying contributions to polar warming amplification in an idealized coupled general circulation model. *Climate Dynamics*, 34:669-687.
- **Lu J.**, M. Cai (2009), Seasonality of polar surface warming amplification in climate simulations. *Geophys. Res. Lett.*, 36, L16704, doi:10.1029/2009GL040133.
- **Lu J.**, M. Cai (2009), Stabilization of Atmospheric Boundary Layer and the Global Hydrological Cycle Response to Global Warming. *J. Hydrometeor.*, 10: 347-352
- **Lu J.**, M. Cai (2009), A new framework for isolating feedback processes in coupled general circulation climate models. Part I: Formulation. *Climate Dynamics*, 32:873-885.
- Cai M., **J. Lu** (2009), A new framework for isolating feedback processes in coupled general circulation climate models. Part II: Method Demonstrations and Comparisons. *Climate Dynamics*, 32: 887-900.
- Cai M., **J. Lu** (2007), Dynamical greenhouse-plus feedback and polar warming amplification. Part II: meridional and vertical asymmetries of the global warming. *Climate Dynamics*, 29: 375-391.
- **Lu J.**, J. Ji (2006), A simulation and mechanism analysis of long-term variations at land surface over arid/semi-arid area in north China. *J. Geophys. Res.*, 111, D09306, doi: 10.1029/2005JD006252.
- Ye D.Z., **J. Lu** (2003), Retrospect and prospect: advances in climate research. *Progress in Natural Science*, 13: 241-246.
- **Lu J.**, J. Ji (2002), A simulation study of atmosphere-vegetation interaction over Tibetan Plateau (I): Physical Fluxes and Parameters. *Chinese Journal of Atmospheric Sciences*, 26: 113-126.

- **Lu J.**, J. Ji (2002), A Simulation Study of Atmosphere-Vegetation Interaction over Tibetan Plateau (II): Net Primary Productivity and Leaf Area Index. *Chinese Journal of Atmospheric Sciences*, 26: 255-262.
- Ye D.Z., **J. Lu** (2000), On Sustainable Development and the adaptation to the impact of Global Change. *Bulletin of the Chinese Academy of Sciences*, 14:164-168.
- **Lu J.**, J. Ji (2000), On the levels of atmosphere-biosphere interaction. *Advances in Earth Sciences (in Chinese)*, 15: 434-441.

Publications Submitted or in Preparation

- Yan Y., Y. Liu, **J. Lu** (2015), Cloud Vertical Structure, Precipitation, and Cloud Radiative Effects over Tibetan Plateau and its Neighboring Regions. (*J. Geophys. Res.- Atmosphere*, in revision).
- F. Wang, **J. Lu**, H. Liu, P. Lin (2015), On the decomposition of Stationary and Meso-Scale Eddies: Eddy Transport and Eddy Diffusivity. (To be submitted to *Journal of Physical Oceanography*).
- F. Wang, H. Liu, **J. Lu**, P. Lin (2015), Comparing the Methods for Calculating Eddy Diffusivity Parameters. (To be submitted to *Advances in Atmospheric Sciences*).

Book Chapters

- **Lu J.**, J. Ji (2002), Atmosphere-vegetation interaction model AVIM and its application in global carbon cycle research. Chapter 7th, 117-130. In: *Land Use Change, Greenhouse Gases Emissions, and Carbon Cycles in Terrestrial Ecosystems*. Li K.R. *et al.* (eds.), ISBN 7-5029-3356-5, Meteorological Press, Beijing, 310p.
- **Lu J.**, L. T. Chen (1996), A comparative study on ENSO events during 1980s. In: *Processes of Disastrous Climate and Its Diagnostics*. Huang R.H. *et al* (eds.), Meteorological Press, Beijing, 189-195.

Conference Presentations (* Oral presentation)

- *Lu J. (2014), On “Some Fundamental Problems of the General Circulation of the Atmosphere” by Yeh and Chu (1958), The Latsis Symposium 2014 - Atmosphere and Climate Dynamics: From Clouds to Global Circulations. June 18-21, Zurich, Switzerland.
- Lu J., A. Hu, and Z. Zeng (2014), On the possible interaction between internal

climate variability and forced climate change. The Latsis Symposium 2014 - Atmosphere and Climate Dynamics: From Clouds to Global Circulations. June 18-21, Zurich, Switzerland.

- Lu J. (2013), On the diagnostics of AMOC variability in multi-centennial coupled climate simulations. AMS 19th Conference on Atmospheric and Oceanic Fluid Dynamics, June 16-21, Newport, RI.
- *Lu J., E. Chassignet, J. Yin (2011), Incorporation of the HYbrid Coordinate Ocean Model (HYCOM) into the Community Climate System Model (CCSM): Evaluation and Climate Applications. *Climate and Earth System Modeling (CESM) Principal Investigators' Meeting*, Washington DC, 19-22 September 2011.
- *Lu J., K. Speer (2011), On the relation between topography and eddy mixing in the Southern. *18th Conference on Atmospheric and Oceanic Fluid Dynamics, American Meteorological Society*, Spokane, Washington, 13-17 June 2011.
- Lu J., K. Speer (2010), Topography, jets, and eddy mixing in the Southern Ocean. *2010 Ocean Sciences Meeting*, Portland, Oregon, 22-26 Feb. 2010.
- *Lu J., M. Cai (2010), Seasonality of polar warming amplification in climate simulations. *AMS 22nd Conference on Climate Variability and Change*, Atlanta, Georgia, 17-21, Jan. 2010.
- Lu J., M. Cai (2010), Stabilization of Atmospheric Boundary Layer and the Muted Global Hydrological Cycle Response to Global Warming. *AMS 22nd Conference on Climate Variability and Change*, Atlanta, Georgia, 17-21, Jan. 2010.
- Lu J. (2008), Representing the role of water vapor in climate feedback by coupled surface-atmosphere climate feedback-response method (CFRAM). *AGU Chapman Conference on Atmospheric Water Vapor and its role in Climate*, Kailua-Kona, Hawaii, 20-24 Oct. 2008.
- *Lu J. (2008), Idealized climate models as tools for the understanding of some basic concepts of climate dynamics. *Workshop on Teaching Weather and Climate using Laboratory Experiments*, Chicago, Illinois, 18-20 June, 2008.
- Lu J., M. Cai (2007), A coupled atmosphere-surface feedback-response analysis method (CFRAM). *AGU Fall Meeting*, San Francisco, California, 10-14 Dec. 2007.
- *Lu J. (2001), The simulation of atmosphere-vegetation interaction. *Workshop for Carbon Cycle Model Linkage Project (CCMLP)*. Washington D.C., 19-22 Dec. 2001.
- Lu J. (2001), On the levels of atmosphere-biosphere interaction. *Challenges of a Changing Earth: Global Change Open Science Conference*. 10-13 July 2001,

Amsterdam, The Netherlands.

- *Lu J. (2001), An atmosphere-vegetation interaction model and its simulation over Tibetan Plateau. *Conference on Climate Variability and Land-Surface Processes: Physical Interactions and Regional Impacts*, Trieste, Italy, 11-15 June 2001.

Membership

- American Meteorological Society
- American Geophysical Union

Professional Services

Reviewer of

- *Journal of Advances in Modeling Earth Systems*
- *Nature Climate Change*
- *Climate Dynamics*
- *Journal of the Atmospheric Sciences*
- *Geophysical Research Letters*
- *Journal of Geophysical Research-Atmosphere*
- *Advances in Atmospheric Sciences*
- *Journal of Physical Oceanography*
- *Global Change Biology*
- *Atmospheric and Oceanic Science Letters*