

# Yang Zhang

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## Bio

Gender: Female.  
Date of birth: Sept. 1981. Place of birth: Liaoning, China.  
Marriage status: married.

## Research Interests

Atmospheric general circulation and climate dynamics, specifically:

- Transient eddy - mean flow interactions.
- Extratropical climate variability and diagnostics.
- Transient eddies in East Asia.

## Academic Experience

- 2011.12–present,  
School of Atmospheric Sciences, Nanjing University, Associate Professor.
- 2009.11–2011.12,  
School of Atmospheric Sciences, Nanjing University, Assistant Professor.
- 2009.9–2009.11,  
Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Postdoc.

## Teaching Experience

Undergraduate course:

- “General Circulation of the Atmosphere”, Nanjing University, Fall 2010-2014
- “Scientific English in Atmospheric Sciences”, Nanjing University, Summer 2014
- “Fluid Mechanics”, Nanjing University, Spring 2015

Graduate course:

- “General Circulation of the Atmosphere”, Nanjing University, Fall 2012-2014

Course web: <http://eddy.nju.edu.cn/wiki>

## Education

Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, 2003–2009.

Ph.D. in Atmospheric Science, degree awarded on September 16, 2009.

Advisor: Peter Stone.

Thesis: “Nonlinear equilibration of baroclinic eddies: the role of boundary layer processes and seasonal forcing”, 266pp

Thesis committee: Peter Stone, Richard Lindzen, Alan Plumb and Raffaele Ferrari.

Department of Atmospheric Science, Nanjing University, 1999–2003.

B.S. in Atmospheric Science, 2003.

Thesis: “Some Research on the Dynamics of Vortex’s Symmetry”.

Supervised by Prof. Zhe-Min Tan.

## Publications

Nie, Y. , Y. Zhang\*, G. Chen, X. Yang and A. D. Burrows, 2014: Quantifying barotropic and baroclinic eddy feedbacks in the persistence of the Southern Annular Mode. *Geophys. Res. Lett.*, **41**, doi:10.1002/2014GL062210.

Nie, Y. , Y. Zhang\*, X. Yang, and G. Chen, 2013: Baroclinic anomalies associated with the Southern Hemisphere Annular Mode: roles of synoptic and low-frequency eddies. *Geophys. Res. Lett.*, **40**, 2361–2366, doi:10.1002/grl.50396.

Zhang, Yang\*, Xiu-Qun Yang, Yu Nie, and Gang Chen, 2012: Annular-mode-like variation in a multi-layer quasigeostrophic model. *J. Atmos. Sci.*, **69**, 2940–2958.

Zhang, Y.\* and P. Stone, 2011: Baroclinic adjustment in an atmosphere-ocean thermally coupled model: the role of the boundary layer processes. *J. Atmos. Sci.*, **68**, 2710–2730.

Zhang, Y.\* and P. Stone, 2010: Baroclinic eddy equilibration under specified seasonal forcing. *J. Atmos. Sci.*, **67**, 2632–2648.

Zhang, Y.\* , P. Stone and A. Solomon, 2009: The role of boundary layer processes in limiting PV homogenization. *J. Atmos. Sci.*, **66**, 1612–1632.

## Papers under review

Nie, Y. , Y. Zhang\*, G. Chen and X. Yang, 2015: Delineating barotropic and baroclinic mechanisms in the midlatitude eddy-driven jet response to the lower tropospheric baroclinic thermal forcing. (*submitted to J. Atmos. Sci.*)

Chan, D. , Zhang, Y.\* , and Wu, Q. , 2015: Inter-annual variability in strength and position of the East Asian Jet Stream: Dynamics and its linkage to extra-tropical large-scale circulations. (*submitted to J. Climate*)

Song, L. , L. Wang, W. Chen, and Y. Zhang, 2015: Intraseasonal variation of the strength of the East Asian trough and its climatic impacts in boreal winter. (*submitted to J. Climate*)

## Academic Service

Reviewer for Journal of the Atmospheric Sciences, Journal of Geophysical Research - Atmosphere, Geophysical Research Letter, Climate Dynamics, International Journal of Climatology, U.S. National Science Foundation, and so on.

## Some Conference and Invited Talks

2015, 26th IUGG, Prague: “Roles of barotropic and baroclinic eddy feedbacks in the midlatitude eddy-driven jet response to lower-tropospheric thermal forcing”.

2015, LASG, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China : “The Annular Modes: dynamics, diagnostics and model simulations”.

2015, European Geosciences Union (EGU) General Assembly, Vienna: “Quantifying barotropic and baroclinic eddy feedbacks in the persistence of SAM”.

2014, The Latsis Symposium 2014, ETH, Zurich, Switzerland, “Baroclinic anomalies associated with the southern hemisphere annular mode: Roles of synoptic and low-frequency eddies”.

2013, European Geosciences Union (EGU) General Assembly, Vienna: “Baroclinic anomalies associated with the southern hemisphere annular mode: Roles of synoptic and low-frequency eddies”. (presented by Nie, Yu)

2012, MIT MASS Seminar, Cambridge, MA, USA: “Eddy-mean flow interactions in the Annular Modes: the roles of synoptic and low-frequency eddies”.

2012, University of Hawaii at Manoa, HI, USA: “Eddy-zonal flow interactions in the Annular Modes: the roles of synoptic and low-frequency eddies?”

2012, EGU, General Assembly, Vienna: “Annular-mode-like variation in a multi-layer QG model.”

2011, AMS 18th Conference on Atmospheric and Oceanic Fluid Dynamics: “Annular-mode-like variation in a multi-layer QG model. ”.

2010, AGU Fall Meeting, San Francisco, CA, USA: “Annular-mode-like variation in a multi-layer QG model.”.

2009, AMS 17th Conference on Atmospheric and Oceanic Fluid Dynamics, Stowe, VT: “Baroclinic eddy equilibration under specified seasonal forcing”.

2009, AMS 17th Conference on Atmospheric and Oceanic Fluid Dynamics, Stowe, VT: “The role of boundary layer processes in baroclinic eddy equilibration in a simple atmosphere-slab ocean coupled model”.

2009, MIT MASS Seminar: “Baroclinic eddy equilibration under seasonal forcing”.

2008, AGU Fall Meeting, San Francisco, CA, USA: “Baroclinic eddy equilibration under specified seasonal forcing”.

#### **Honors and Awards**

“Teaching Award” for young faculty, Jiangsu Province, 2014.

“Dengfeng Award” (for outstanding young faculty), Nanjing University, 2013.

“Excellent lecture notes/slides”, Nanjing University, 2011.

“Best undergraduate teaching” for young faculty, School of Atmospheric Sciences, NJU, 2010.

EAPS Scholarship, MIT, 2003-2008.