NICHOLAS JAMES LUTSKO

Postdoctoral Associate at MIT
Department of Earth, Atmospheric and Planetary Sciences

Email: lutsko@mit.edu
Website: https://nicklutsko.github.io

54-1823, Building 54
77 Massachusetts Avenue MIT
Cambridge, MA 02139.

Education

2012-2017 **Ph.D.** Princeton University.
Thesis title: Aspects of Eddy Momentum Fluxes in the General Circulation of the Troposphere.
Adviser: Professor Isaac Held

2008-2012 **Msci.** Geophysics, Imperial College London

Publications

Submitted/In Revision

Lutsko, N. J. and Cronin, T. W. (2018). Precipitation efficiency across different climates in radiative-convective equilibrium. *Journal of Advances in Modeling Earth Systems*, Submitted

Lutsko, N. J. (2018a). The relationship between cloud radiative effect and surface temperature variability at enso frequencies in cmip5 models. *Geophysical Research Letters*, In Revision

2018

Lutsko, N. J. and Popp, M. (2018). The influence of meridional gradients in insolation and long-wave optical depth on the climate of a gray radiation gcm. *Journal of Climate*, Accepted

Lutsko, N. J. and Takahashi, K. (2018). What can the internal variability of cmip5 models tell us about their climate sensitivity? *Journal of Climate*, 31:5051 – 5069

Lutsko, N. J. (2018b). The response of an idealized atmosphere to enso-like heating: Superrotation and the breakdown of linear theory. *Journal of the Atmospheric Sciences*, 75:3–20

2017

Popp, M. and Lutsko, N. J. (2017). Quantifying the zonal-mean structure of tropical precipitation. *Geophysical Research Letters*, 44(18):9470–9478. 2017GL075235

Lutsko, N. J., Held, I. M., Zurita-Gotor, P., and O'Rourke, A. K. (2017). Lower tropospheric eddy momentum fluxes in idealized models and reanalysis data. *Journal of the Atmospheric Sciences*, 74:3787 – 3797

2016

Lutsko, N. J. and Held, I. M. (2016). The response of an idealized atmosphere to orographic forcing: Zonal vs meridional propagation. *Journal of the Atmospheric Sciences*, 73(8):3701 – 3718

2015	Lutsko, N. J., Held, I. M., and Zurita-Gotor, P. (2015). Applying the fluctuation–dissipation theorem to a two-layer model of quasi-geostrophic turbulence. *Journal of the Atmospheric Sciences*, 72(8):3161 – 3177

Confererence Presentations

2018	**AGU** *(Invited Talk)* Investigating the Relationship Between TOA Energy Fluxes and Surface Temperature as a Function of Frequency
	MIT Water and Climate Change Workshop *(Poster)* Quantifying the Zonal-Mean Structure of Tropical Precipitation
2017	**AOFD** *(Talk)* Lower Tropospheric Eddy Momentum Fluxes in Idealized Models and Reanalysis Data
2016	**AGU** *(Talk)* What Can the Internal Variability of Climate Models Tell Us About Their Climate Sensitivity?
	Model Hierarchies Workshop *(Poster)* The Responses of Idealized Atmospheric Models to Orographic Forcing
2015	**AOFD** *(Talk)* The Response of the Mid-Latitudes to Idealized Orography in the Presence of a Jet
	AOFD *(Poster)* Applying the Fluctuation–Dissipation Theorem to a Two-Layer Model of Quasi-Geostrophic Turbulence

Seminars

2018	Laboratoire de Meteorologie Dynamique (Paris), NYU, MIT, Cambridge (UK), Oxford, Exeter University
2017	University of Chicago, Geophysical Fluid Dynamics Laboratory (thesis defense), Columbia University

Professional Activities

Reviewer Journal of the Atmospheric Sciences, Journal of Climate, Geophysical Review Letters, GFDL Internal Reviews.

December 2018	**Session Convener at AGU** *Theme:* Relating the Internal Variability of Climate Systems and their Forced Responses.
June 2017	**AOFD Session Chair** *Theme:* Theoretical Advances in AOFD.
August 2015	**Organizer** Princeton AOS Workshop. *Theme:* Using Climate Models to Study Extreme Climates.
Fall 2013 – Spring 2014	**Organizer** Princeton AOS Student Seminar series.

Awards, Fellowships and Summer Schools

2016	Rossbypalooza
2014	Cambridge FDSE Summer School
2013–2016	NSF Graduate Research Fellowship
2012	Princeton University Centennial Fellowship
2012	Imperial College Governor's Prize
2009	EPSRC Summer Research Grant
2008	R. Stoddard Longcroft Prize at Imperial College

Teaching

Spring 2016	**Assistant Instructor** Princeton GEO202: Ocean, Atmosphere, and Climate (with Professor Allison Gray)
Fall 2015	**Assisted with class projects** Princeton AOS576: Current Topics in Dynamic Meteorology Large-Scale Structure/Atmosphere (with Professor Isaac Held)
Fall 2011	**Tutor** Imperial College ESE101: Math Methods 1

Outreach

2018	**Hosted lab visit** with students in MIT Executive MBA Program.
	Member of winning team Climate Changed competition.
Other	**Interpreter/Translator** Boston Housing Authority.
	Volunteer Trenton-Area Soup Kitchen.