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

2017 **Ph.D.** Atmospheric and Oceanic Sciences, Princeton University.
Thesis title: Aspects of Eddy Momentum Fluxes in the General Circulation of the Troposphere.
Adviser: Professor Isaac Held

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

Publications

Submitted/In Revision	Lutsko, N. J., Marshall, J., and Green, B. (2018). Modulation of the indian monsoon by cross-equatorial ocean heat transport. *Journal of Climate*, Submitted
2018	Lutsko, N. J. and Cronin, T. W. (2018). Increase in precipitation efficiency with surface warming in radiative-convective equilibrium. *Journal of Advances in Modeling Earth Systems*, 10:2992 – 3010
	Lutsko, N. J. (2018a). The relationship between cloud radiative effect and surface temperature variability at enso frequencies in cmip5 models. *Geophysical Research Letters*, 45:10599 – 10608
	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*, 31:7803–7822
	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

Departmental Seminars

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

Confererence Presentations

2018	**AGU** *(Invited Talk)* Investigating the Relationship Between TOA Energy Fluxes and Surface Temperature as a Function of Frequency
	AGU *(Poster)* Increase in Precipitation Efficiency with Surface Warming in Radiative-Convective Equilibrium
	Held Symposium *(Poster)* Investigating the Relationship Between TOA Energy Fluxes and Surface Temperature as a Function of Frequency
	CliMathNet *(Talk)* What Can the Internal Variability of Climate Models Tell Us About Their Climate Sensitivity?
	MIT Water and Climate Change Workshop *(Poster)* Quantifying the Zonal-Mean Structure of Tropical Precipitation
2017	**AGU** *(Poster)* The Influence of Meridional Gradients in Insolation and Long-Wave Optical Depth on the Climate of a Gray Radiation GCM
	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

Professional Activities

Reviewer	Journal of the Atmospheric Sciences, Journal of Climate, Climate Dynamics, Geophysical Review Letters, GFDL Internal Reviews.
December 2018	**AGU Session Convener** *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.

Teaching and Instruction

Spring 2016	**Assistant Instructor** Princeton GEO202: Ocean, Atmosphere, and Climate with Professor Allison Gray.
Fall 2015	**Assistant Instructor** Princeton AOS576: Current Topics in Dynamic Meteorology Large-Scale Structure/Atmosphere with Professor Isaac Held.
Fall 2011	**Tutor** Imperial College ESE101: Mathematics for Geoscientists.

Awards, Fellowships and Summer Schools

2018	Heldfest Travel Scholarship
2016	Rossbypalooza
2014	Cambridge FDSE Summer School
2013–16	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

Professional Outreach

2018 **Lab Visit Host** with MIT Executive MBA Program.

First Place Climate Changed: After Models? Competition. MIT Environmental Solutions Initiatives & Department of Architecture, Urbanism and Planning.