

# Malte F. Jansen

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<b>Education</b>	<b>Massachusetts Institute of Technology (MIT)</b> PhD in Climate Physics and Chemistry Thesis title: "Equilibration of an Atmosphere by Geostrophic Turbulence" Advisor: Raffaele Ferrari	Cambridge, MA, USA October 2012
	<b>IFM-GEOMAR / University Kiel</b> Diplom ( $\approx$ M.Sc.) with distinction in Meteorology Minors: Physical Oceanography, Theoretical Physics Thesis title: "Simple Conceptual models for Tropical Ocean-Atmosphere Interactions on Interannual Timescales". Advisor: Dietmar Dommenges	Kiel, Germany June 2007
	<b>University of Heidelberg</b> Vordiplom ( $\approx$ B.S.) in Physics Minors: Mathematics, Computer Science.	Heidelberg, Germany October 2003
<b>Employment</b>	<b>Department of the Geophysical Sciences, The University of Chicago</b> Assistant Professor	Chicago, IL Jan 2015 - present
	<b>Geophysical Fluid Dynamics Laboratory / Princeton University</b> NOAA Climate and Global Change Postdoctoral Fellow AOS Postdoctoral Research Associate	Princeton, NJ, USA Jul. 2013 – Dec. 2014 Apr. 2013 – Jun 2013
	<b>Department of Earth Atmospheric and Planetary Sciences, MIT</b> Postdoctoral Associate Research and Teaching Assistant	Cambridge, MA, USA Nov. 2012 – Mar 2013 Jun. 2008 – Oct. 2012
<b>Selected Awards and Fellowships</b>	NOAA Climate and Global Change Postdoctoral Fellow	2013 - 2014
	Carl-Gustaf Rossby Award for the best PhD thesis completed in the preceding year in the Program in Atmospheres, Oceans and Climate, MIT	May 2013
	GFD Fellow at Woods Hole Oceanographic Institution	Summer 2008
	Shrock Fellowship in MIT's Department of Earth, Atmospheric, and Planetary Sciences	2007-2008
	Fellow of the German National Academic Foundation	2004-2007
<b>Teaching Experience / Training</b>	Large-Scale Ocean Circulation, The University of Chicago	Winter 2016
	Student project advisor, GFD summer program, Woods Hole, MA	Summer 2014
	Teaching Certificate (Semester-long workshop), MIT	Spring 2012

**Service/  
Leadership**

Reviewer for the *National Science Foundation (NSF)*, *Science*, *Nature Geoscience*, *Nature Communications*, *J. Phys. Oceanogr.*, *J. Climate*, *Climate Dynamics*, *Geophysical Research Letters*, *J. Geophys. Res.*, *Ocean Modelling* and *Physics of Fluids*

Session Chair, Ocean Sciences Meeting 2016

Session Chair, 19<sup>th</sup> and 20<sup>th</sup> Conference on Atmospheric and Oceanic Fluid Dynamics, 2013, 2015

Co-organizer and Session Chair, 2011 Graduate Climate Conference, Woods Hole, MA

**Publications**

Jansen, M. F. and L.-P. Nadeau, 2016: The Effect of Southern Ocean Surface Buoyancy Loss on the Deep Ocean Circulation and Stratification. *J. Phys. Oceanogr.*, in press

Chai, J, M. Jansen and G. K. Vallis, 2016: Equilibration of a baroclinic planetary atmosphere toward the limit of vanishing bottom friction. *J. Atmos. Sci.*, doi:10.1175/JAS-D-15-0329.1

Jansen, M. F., 2016: The Turbulent Circulation of a Snowball Earth Ocean. *J. Phys. Oceanogr.*, 46(6), 1917-1933.

Wang, L., M. F. Jansen, and R. P. Abernathey, 2016: Eddy phase speeds in a two-layer model of quasigeostrophic baroclinic turbulence with applications to ocean observations. *J. Phys. Oceanogr.*, doi:10.1175/JPO-D-15-0192.1

Cronin, T. W. and M. F. Jansen, 2016: Analytic radiative-advective equilibrium as a model for high-latitude climate. *Geophys. Res. Lett.*, 43, 449–457

Payne, A. E., M. F. Jansen, and T. W. Cronin, 2015: Conceptual model analysis of the influence of temperature feedbacks on polar amplification, *Geophys. Res. Lett.*, 42, 9561–9570

Jansen, M.F., I.M. Held, A.J. Adcroft, and R. Hallberg, 2015: Energy budget-based backscatter in an eddy permitting primitive equation model. *Ocean Modelling*, 94, 15-26.

Zurita-Gotor, P., I.M Held, and M. F. Jansen, 2015: Kinetic energy-conserving hyperdiffusion can improve low resolution atmospheric models. *Journal of Advances in Modeling Earth Systems*, doi: 10.1002/2015MS000480

Jansen, M.F., A.J. Adcroft, R. Hallberg, and I.M. Held, 2015: Parameterization of eddy fluxes based on a mesoscale energy budget. *Ocean Modelling*, 92, 28-41

Burke, A., A.L. Stewart, J.F. Adkins, R. Ferrari, M.F. Jansen, and A.F. Thompson, 2015: The Glacial Mid-Depth Radiocarbon Bulge and Its Implications for the Overturning Circulation. *Paleoceanography*, 30, doi:10.1002/2015PA002778

Jansen, M. and R. Ferrari, 2014: Diagnosing the vertical structure of the eddy diffusivity in real and idealized atmospheres. *Q.J.R. Meteorol. Soc.*, doi: 10.1002/qj.2387

Jansen, M.F. and I.M. Held, 2014: Parameterizing subgrid-scale eddy effects using energetically consistent backscatter. *Ocean Modeling*, 80, 36-48

Ferrari, R., M. Jansen, J. Adkins, A. Burke, A.L. Stewart, and A. Thompson, 2014: Antarctic sea ice control on ocean circulation in present and glacial climates. *Proc. Natl. Acad. Sci.*, 111 (24) 8753-8758.

Jansen, M. and R. Ferrari, 2013: Equilibration of an atmosphere by adiabatic eddy fluxes. *J. Atmos. Sci.*, 70, 2948–2962

Jansen, M. and R. Ferrari, 2013: The vertical structure of the eddy diffusivity and the equilibration of the extra-tropical atmosphere. *J. Atmos. Sci.*, 70, 1456–1469

Jansen, M. and R. Ferrari, 2012: Macroturbulent equilibration in a thermally forced primitive equation system. *J. Atmos. Sci.*, 69, 695-713

Jansen, M. F., R. Ferrari and T.A., Mooring, 2010: Seasonal versus permanent thermocline warming by tropical cyclones. *Geophys. Res. Lett.*, 37, L03602, doi:10.1029/2009GL041808

Dommenget, D., and M. Jansen, 2009: Predictions of Indian Ocean SST indices with a simple statistical model: a null hypothesis. *J. Climate*, 22, 4930–4938

Jansen, M., and R. Ferrari, 2009: Impact of the latitudinal distribution of tropical cyclones on ocean heat transport, *Geophys. Res. Lett.*, 36, L06604, doi:10.1029/2008GL036796

Jansen, M.F., D. Dommenget, and N. Keenlyside, 2009: Tropical atmosphere–ocean interactions in a conceptual framework. *J. Climate*, 22, 550–567