Casey Patrizio

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Centro Euro-Mediterraneo sui Cambiamenti Climatici Viale C. Berti Pichat, 6/2, Bologna 40127, Italy

Professional Experience

Postdoctoral Researcher	2021-
Euro-Mediterranean Center for Climate Change (CMCC), Bologna, Italy	present
Education	
Ph.D. in Atmospheric Sciences	2017-2021
Degree awarded August 6, 2021	
Colorado State University (CSU), Fort Collins, CO, USA	
Dissertation: Understanding the Role of Ocean Dynamics in Climate Variability	
M.S. in Atmospheric Sciences	2014-2017
Degree awarded August 4, 2017	
CSU, Fort Collins, CO, USA	
Thesis: The Spatial Scale of Convective Aggregation in Cloud-Resolving Simulations of	
Radiative-Convective Equilibrium	
B.Sc. in Atmospheric Sciences	2009-2014
University of British Columbia (UBC), Vancouver, BC, Canada	
Research Experience	
Postdoctoral Researcher	2021-
CMCC, Divisions of Climate Simulations and Prediction (CSP), and Ocean Modeling and	present
Data Assimilation (ODA)	
Graduate Research Assistant	2017-2021
CSU, advisor: David W.J. Thompson, co-advisor: David A. Randall	
 Quantified the role of ocean dynamics in mixed-layer temperature variability across 	
the global oceans using observations and an ocean state estimate	
 Used a hierarchy of climate models, ranging from a simple stochastic climate model 	
to slab-ocean GCM to fully-coupled GCM to interpret the observational results	

<i>Graduate Research Assistant</i> CSU, advisor: David A. Randall; co-advisor: David W.J. Thompson	2014-201
 Simulated convective aggregation using a cloud-resolving model Worked with NCAR's high performance computing environment Created a simple steady-state model of aggregated convection 	
<i>Undergraduate Research Assistant</i> UBC, supervisor: Phillip H. Austin	201
 Performed large-eddy simulations of cumulus convection 	
Awards	
NASA Earth and Space Science Fellowship (NESSF 18)	2018-202
American Meteorological Society (AMS) Student Travel Grant Award	01/201
Natural Sciences and Engineering Research Council of Canada Undergraduate Student Research Award	05/201
Teaching	
<i>Teaching Assistant</i> CSU, Atmospheric Dynamics II (602); professor: Thomas Birner	201
Volunteer	
 User Tester at rOpenSci Hackathon Participated in group user testing of rnoaa, an R interface to NOAA data APIs 	04/201
 Little Shop of Physics Assistant Taught elementary school students physics for a science outreach program 	201 201
Skills	
Languages: English (first language), Spanish (beginner), Italian (beginner)	
Programming languages: Python (proficient), Fortran, MATLAB, R (some experience)	
Operating Systems: MacOS, Unix (proficient)	
Tools: LaTeX, GitHub, NCO (proficient)	
Workshops	
Marking Learning Warkshar, CCLL Fart Calling, CO	01/202

Machine Learning Workshop, CSU, Fort Collins, CO	01/2020
Community Earth System Model 2 (CESM2) Workshop, Washington, D.C.	12/2018
Model Hierarchies Workshop, Princeton, NJ	11/2016

Publications

Patrizio, C. R., and Thompson, D. W. (2021c). The Atmospheric Response to Oceanic-Forced Sea-Surface Temperature Variability in the Western North Pacific. *Geophysical Research Letters*. Submitted.

Patrizio, C. R., and Thompson, D. W. (2021b). Understanding the Role of Ocean Dynamics in Midlatitude Sea Surface Temperature Variability using a Simple Climate Model. *Journal of Climate*. Submitted.

Patrizio, C. R., and Thompson, D. W. (2021a). Quantifying the Role of Ocean Dynamics in Ocean Mixed-Layer Temperature Variability. *Journal of Climate*, 1-63. https://doi.org/10.1175/JCLI-D-20-0476.1

Patrizio, C. R., and Randall, D. A. (2019). Sensitivity of Convective Self-Aggregation to Domain Size. *Journal of Advances in Modeling Earth Systems*, 11, 1995–2019. https://doi.org/10.1029/2019MS001672

Conference Presentations

Patrizio, C. R. and Thompson, D. W. J. (2020). Quantifying the Role of Ocean Dynamics in Mixed-Layer Temperature Variability. AGU 53rd Annual Meeting. Online.

Patrizio, C. R. and Thompson, D. W. J. (2019). Quantifying the Role of Ocean Dynamics in North Atlantic Sea-Surface Temperature Variability. AGU 52nd Annual Meeting. San Francisco, CA, USA.

Patrizio, C. R. and Thompson, D. W. J. (2019). Quantifying the Role of Ocean Dynamics in Sea-Surface Temperature Variability. Graduate Climate Conference 2019. Woods Hole, MA, USA.

Patrizio, C. R. and Randall, D. A. (2018). Sensitivity of Convective Self-Aggregation to Domain Size. AGU 51st Annual Meeting. Washington, D.C., USA.

Patrizio, C. R., Thompson, D. W. J, and Randall, D. A. (2018). The Role of Cloud Radiative Effects in North Atlantic SST Variability. AMS 15th Conference on Atmospheric Radiation. Vancouver, BC, Canada.

Patrizio, C. R. and Randall, D. A. (2016). Spatial Scale of Convective Aggregation in Idealized Cloud-Resolving Simulations of Radiative-Convective Equilibrium. AGU 49th Annual Meeting. San Francisco, CA, USA.

Patrizio, C. R. and Randall, D. A. (2016). Convective Aggregation in Simulations of the Tropical Atmosphere. Graduate Student Showcase. Fort Collins, CO, USA.